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ACHLORHYDRIA, WITH SPECIAL REFERENCE TO GALL-BLADDER.*

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Only a few years ago the teaching in general medicine and also in the special field of gastroenterology with reference to the finding of no free hydrochloric acid, or with a subacidity, was that only one of the following diseases was to be considered as a causative factor:

First, pernicious anemia; second, cancer of the stomach; third, gastric neuroses.

This same idea was carried out in the medical literature of the time as well.

In more recent years, since the laboratory has become a part of all clinics, both large and small, and it has become the custom to do gastric analyses as a routine procedure in making all complete examinations, we have been forced to add, gradually, a number of other conditions to our list above. Among these conditions are gall-bladder disease, pellagra, sprue and spinal cord changes.

The first essential, naturally, is to establish the fact that achlorhydria exists. The only reliable proof of this fact is furnished by fractional gastric analysis. A single extraction of stomach contents is not considered sufficient evidence of proving an existing achlorhydria, or even a subacidity. There is no symptom or chain of symptoms that prove or disprove the existence of achlorhydria. Roentgen-ray examinations or physical findings will not determine the activity of the gastric secreting mechanism; only fractional gastric analysis is conclusive.

Achlorhydria is a symptom only. Once it is definitely determined that this condition exists, a starting point towards the diagnosis of the underlying cause has been reached. We then may look for other evidence, either in the stomach itself or in other organs more or less remote, and consider the different conditions in which this symptom is commonly found. We will take up these conditions briefly.

PERNICIOUS ANEMIA

The first disease to consider is pernicious anemia, for until this condition is definitely ruled out by the history, the physical and other laboratory examinations, no other cause deserves consideration. The frequency of this association has long been a recognized factor, and gradually the conviction has been reached that this association is not only frequent, but is constant. It is often the first and only symptom and is sometimes found long before the underlying cause is in sufficient evidence for a clear cut diagnosis to be made. Most authorities agree that the diagnosis of pernicious anemia is very incomplete without this important finding.

CANCER OF THE STOMACH

In years gone by achlorhydria was an invaluable finding in the diagnosis of can-

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cer of the stomach. Since the development of the roentgen-ray examination of gastro-intestinal conditions, however, this symptom has lost its prominence here. Some authorities say now that it is at best a late symptom, and after the presence of no free hydrochloric acid is found, that the condition is usually beyond surgical interference.

NEUROSES

There is a group of cases in which achlorhydria is found in which there is nothing else to explain the condition, after careful examination, except a disturbance of innervation to the secreting portion of the stomach. These cases have long been described as purely functional.

First in frequency comes the visceroptoses with neurasthenia, commonly known as Glenard's disease. It is probably not the low position of the stomach that disturbs the acid secretion, but the faulty innervation to the secreting glands. This same deficiency leads to poor motor power, with atony and dilatation, which is very likely the cause of the digestive disturbances complained of in this group of cases, rather than the absence of the normal stomach acid.

There is another group of cases under this same heading worthy of mention, the neurasthenics without gastroptosis. The history in these cases is one of long continued overwork, physical or mental, or both, or of prolonged emotional disturbances.

Achlorhydria is found in Glenard's disease with sufficient frequency to make it appear probable that it is a true consequence, but patients falling under this group of neuroses are not exempt from pernicious anemia, cancer of the stomach, or gall-bladder disease. So, the conclusion must not be prematurely drawn that the absence of free hydrochloric acid is fully explained by the gastroptosis or by the accompanying neurasthenia.

PELLAGRA AND SPRUE.

These are two conditions that will be merely mentioned, for achlorhydria is not one of the outstanding symptoms here as in some of the other conditions under consideration.

In pellagra there are the other frequent symptoms of bowel disturbance, nervousness not accounted for in any other way, the mucus membrane changes, especially the tongue and mouth and the skin eruptions. It has been our experience in the last few years, in dealing with a number of cases of pellagra, that achlorhydria has been a constant finding.

In sprue, which is strictly considered as a tropical disease, but which is being seen with more frequency in the United States at present, the mucus membrane changes, the diarrhea, the gastralgia and, most important since the work of Ashford published in 1914, the finding of the Monila psilosis in all cases of sprue, are all factors of importance. Subacidity is rather a constant factor here, and achlorhydria is very frequently found.

SPINAL CORD CHANGES.

Since the publication of Hurst of London in 1922 of a record of ten cases of combined sclerosis of the cord, in which all cases showed a persistent achlorhydria, this condition has been added to those mentioned, in which there is marked interference with the acid-secreting glands of the stomach.

GALL-BLADDER DISEASES.

I have purposely omitted this condition until last, for it is this most important condition that I wish to discuss at some length.

That there is a definite relation between chronic gall-bladder disease and achlorhydria was first called to the attention of the medical world by Leva in 1893. Following his publications numerous other observations have been seen from time to time, most of which are found in the German literature. It is only in the last decade that sufficient evidence has been accumu-

lated to enable us to draw some definite conclusions. Reviewing these investigations in a paper published in the early part of 1925, Van Aldor states that, on the basis of observations made in different clinics by different men, it is definitely proven that hypochlorhydria of a marked degree or a complete achlorhydria occurs in about half the patients who have chronic cholecystitis. Blalock of John Hopkins Hospital reports the largest number of cases of anyone in this country with reference to this particular point. Between the years of 1899 and 1924 there were 735 patients operated on at Johns Hopkins for gall-bladder disease. In only 206 of these were gastric analyses made, but among these 23 per cent showed a complete achlorhydria. No mention was made of hypochlorhydria.

In Stanford Hospital during the five years from January, 1920, to January, 1925, there were 84 patients operated on for gall-bladder disease. Of this number there were 14 in whom the stomach contents were not examined. Of the remaining 70 cases, however, 37 showed either a complete absence of free hydrochloric or a marked reduction in acid secretion.

It has been a fact of great interest to me to check the records of our Clinic of the South Mississippi Infirmary and to note the results. All cases diagnosed as cholecystitis, acute or chronic, or cholelithiasis, over the last two year period, in which gastric analyses had been made, were listed and checked. There were 53 of these cases, and of this number 22, or 41½ per cent, showed a complete achlorhydria, while 32 showed a definite reduction of the free hydrochloric to 10 per cent or below.

The question that naturally arises in one's mind is, why should there be any connection between achlorhydria and gall-bladder disease? Numerous theories have been advanced to explain this association.

Eichorn, who in 1892 coined the term achlorhydria, considered the phenomenon to be due to "certain nervous disturbances," and cited the fact that he had demonstrated the presence of well preserved gastric glands in cases of achlorhydria. Since the innervation of the gall-bladder and stomach was so closely associated, the achlorhydria found in gall-bladder disease was a reflex due to this common innervation.

There is some objection to this theory, however, since gall-bladder disease and achlorhydria, or subacidity, are not inevitable associates, and that in some instances removal of the gall-bladder does not inhibit gastric secretion of free hydrochloric acid.

Then there is the hormone theory. The idea behind this belief is that there is an activating hormone produced in the bile tract, or in the duodenum, that is essential to the stimulation of secretions by the acid-forming cells of the stomach, and that in gall-bladder disease this essential substance is destroyed. This hormone theory is rather weak, also, since the hormone has never been demonstrated, and gall-bladder disease does not always produce achlorhydria; and, also, after the gall-bladder has been removed normal acid secretion may be re-established.

The most likely theory advanced to explain the connection of gall-bladder disease and achlorhydria is that of Van Aldor. His idea is that chronic gastritis is associated with a certain percentage of the cases of chronic cholecystitis; and that in these cases there will be found not only an achlorhydria but also a marked excess of gastric mucus, which is an important diagnostic feature.

In a recent publication of 1928, which is a most excellent treatise on diseases of the gall-bladder and bile ducts by Graham, Cole, Copher, and Moore, of Barnes Hospital, St. Louis, some very astounding figures are given which are backed up by statistics, not only of their observations but also from the experiences of others as well. Briefly stated, their conclusions were that between 20 per cent and 25 per cent of all

adults have gall-stones, and that from 40 per cent to 50 per cent of our adult population has disorders of their biliary systems which in probably the majority of instances are at times associated with more or less severe symptoms. We may say, then, that gall-bladder disease is one of the most common conditions that we are called on to diagnose and treat, either from a medical or surgical standpoint.

The idea in presenting this paper before this body was not to advance any new theories or to reveal any new original scientific investigations. In routine clinic and hospital work in the last few years in which a constant effort has been put forth to go to the bottom of each patient's individual problem as he or she presented it, the fact has been greatly impressed by constant repetition in case after case complaining of digestive disturbances, that there is more than an accidental association of achlorhydria and gall-bladder disease. Frequently the symptoms complained of are such that point to some stomach involvement. After gastric analysis and a gastro-intestinal study often the only abnormality found will be a subacidity or anacidity. Then the skiagraphs of the gall-bladder region are made after the dye is administered intravenously and more positive proof of gall-bladder disease is obtained.

On routine examination, when achlorhydria is found, we have the first manifestation of the destructive influence of some toxin at work in the body mechanism. This gives us a starting point for investigation, for we know that it is only a symptom of some deeper underlying cause, and in our search for this underlying cause gall-bladder disease, to my mind, should be one of the first conditions for consideration.

DISCUSSION.

Dr. G. W. F. Rembert (Jackson): It is very regrettable that nothing more is known about the secretion of the hydrochloric acid in the stomach. It certainly is not constant in health, nor is the absence constant in disease. It is generally thought that it is necessarily absent in pernicious anemia. Newt Fowler reported seven cases two years ago of pernicious anemia in which achlorhydria was present. That was backed up by Alfred Stengel. The question is: When is true achlorhydria present? In the majority of cases when using crackers and water, no acid is shown, but 7 c.c.'s of 95 per cent alcohol and 50 c.c.s of water show the presence of acid, and again the false from the true achlorhydrias can be separated by the hypodermic administration of histamin, from a quarter to one milligram.

As to the frequent finding of low acid or absent acid in gall-bladder disease, that is very true. It also is found in conditions of chronic gastritis. The question arises whether the gall-bladder caused the gastritis or whether the gastritis caused the gall-bladder trouble, or whether one is responsible for the other. The absence of hydrochloric acid in gall-bladder disease is by no means constant, because an extraction of the stomach contents will at one time show no acid and at another time will show acid.

The removal of the gall-bladder has been followed at times by the return of acid in the stomach, and at other times there is no difference. I think we must feel that up to this time very little is known as to the presence or absence of hydrochloric acid in the stomach.

I remember hearing Christian make the statement once that the presence of hydrochloric acid in the stomach was a luxury that few could boast of, that it is very frequently absent and frequently without symptoms. Incidentally, the administration of hydrochloric acid at times is followed with very gratifying results, and at other times no therapeutic response whatever is seen.

Again the question on the part of the amount of it has been brought up by Tom Brown who said the mere presence of hydrochloric acid in the stomach is enough to bring about the necessary activation and that the quantity does not influence. Sampson in California insists on large doses, and Silverman has shown that digestive action does not take place in the stomach unless the hydrochloric acid is present in certain concentration.

The doctor has presented a beautiful compilation of thought and has brought before you some questions to decide regarding the influence of gall-bladder and acid secretion which will some day be better understood.

Dr. J. P. Culpepper, Jr. (closing): I have nothing else to add. This is a most interesting subject. It is a subject, as Dr. Rembert said, that we know very little about at this time. There is a wide field for investigation and for research along this line, and I am sure it is just a question of a few years until we will have a better understanding about this condition.

CONGENITAL HYPERTROPHIC PYLORIC STENOSIS.*

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In 1902 Cautley and Dent stated that the earliest record of congenital pyloric stenosis was that of a case report dated 1841. William Osler took exception to this statement, and in 1903, set forth the claims of Beardsley of this country. But because of the age of Beardsley's patient, which was five years old, his diagnosis was presumptive rather than positive. It has been proven beyond any doubt that George Armstrong of London in 1871 was the first to give a description of this malady. He antedates Beardsley by seventeen years. Gross's surgery in 1872 has no reference to any such ailment.

Pyloric stenosis occurs much more frequently in males than females. Most of the cases are found in breast fed children. Therefore, artificial feeding has nothing to do with the condition. Fully one-third of the cases are in the first children. Apparently the children are otherwise healthy. According to some authorities some form of stenosis occurs in 2 per cent of all infants. Complete obstruction is found in a fraction of 1 per cent. The etiology is unknown.

The pathology of pyloric stenosis in early infancy is also somewhat obscure. At present there are two quite different views. Some believe the primary and essential condition is one of spasm, with secondary hypertrophy. The other view, and the one most likely, is primary hypertrophy, with secondary spasm. This has been demonstrated in a foetus. The tumor neither looks, cuts nor acts like an hypertrophy or spasm of muscle. The margins of the incision through it have no tendency to separate. But whatever it is, it varies in degree, giving quite different clinical courses.

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Symptoms rarely begin during the first week. Between the second and fourth week, rarely later than the sixth, the first symptoms to make its appearance is vomiting. At first the child vomits or spits up two or three times a day. The character of the vomiting gradually increases in severity, depending upon the amount of obstruction. The vomiting becomes more projectile or gusher in type each day. In a simple pyloric spasm there is an absence of vomiting at times but in pyloric stenosis the vomiting is persistent. In a partial stenosis a certain amount of milk will pass into the small intestine. The loss of weight and dehydration will not be as rapid as there will be milk in the stools. In a complete stenosis there will be rapid dehydration, starvation stool, constipation, lessoned amount of urine. In a natural effort to empty the stomach there results hypertrophy and dilation of the stomach. The peristaltic waves become increased. Due to loss of weight and dehydration, the abdominal wall is very thin and the waves can be seen crossing the upper abdomen from left to right. Their size and frequency are increased after the taking of food. They can be seen from a distance after feedings. At times it is possible to palpate the tumor of the pylorus. It is much easier to feel the tumor when the stomach is empty. When found it is freely movable. Fever is absent in all cases, unless the dehydration is so severe as to cause an inanition fever. Then it may reach as high as 105 degrees. The prolonged retention of food in the stomach is one of the characteristics of pyloric stenosis. After feedings the upper abdomen is very full, whereas, the lower abdomen is very thin and empty. In all cases the severity of all symptoms depend entirely upon the amount of obstruction.

If the condition is kept in mind, the diagnosis is usually easy. Projectile vomiting, a palpable pyloric tumor and visible peristaltic waves, a combination in no other condition, make the diagnosis not a matter of opinion but an absolute certainty. Con-

genital occlusions of the duodenum give a similar picture, but this condition is very rare. Here the vomiting occurs from birth and the vomitus is generally bile stained. Usually the only difficulty is to distinguish between so-called gastric indigestion and the milder cases of stenosis. Gastric disturbances are not very common in breast-fed babies and the vomiting is usually in small quantities. Gastric motility is impaired while in stenosis it is markedly increased. One must keep in mind that projectile vomiting and chronic constipation are found in tumors of the brain; also, that vomiting and scanty urine are found in renal diseases. It is rarely ever necessary to use the roentgen-ray to make a diagnosis.

Pyloric stenosis must be considered seriously. It often ends fatally, unless properly treated. By the older methods of treatment fully 50 per cent died. Operative methods offers a more hopeful prognosis. During the last fifteen years there has been a gradual reduction in mortality. Bolling in the Journal of the American Medical Association in 1925 reports a mortality of 8½ per cent in a selected group. The general morality is about 17 per cent. With a fairly early diagnosis and a resort to surgical treatment, the mortality should not be over 8 or 10 per cent. The more weight the child has lost the worse the prognosis.

The preoperative preparation consists of combating dehydration and loss of heat. Normal saline should be administered into the peritoneal cavity. Glucose and saline should be given continuously by rectum if retained. The infant should be well wrapped in a blanket. The operating room and table must be warm. Hot water bottles placed around the child's body prevent chilling.

Except in the very mild cases, the treatment is purely a surgical procedure. There have been several operations devised to relieve the obstruction, but the one of choice is the Rammstedt. It consists of making a small right rectus incision over the pylorus and delivering it through the incision. A longitudinal incision in the bloodless area, is made through the serosa and muscularis. The cut surfaces are retracted, allowing the mucosa to protrude into the wound. It is much safer to use blunt dissection, after cutting almost through the muscular coat. After stopping the bleeding, the visera is dropped back into the peritoneal cavity. In closing the abdomen great care should be taken to suture layer by layer and to use three or four through and through silk worm retention sutures. These little fellows strain a great deal and unless well sutured, post operative evisceration will occur. The Rammstedt operation is the quickest performed. In very skilled hands it can be done in five or ten minutes. Most any operator can finish in twenty minutes. If carefully done, excellent results will follow.

The operative risks are operative shock, hemorrhage, perforation of the mucosa of the stomach or duodenum, and inadequate freeing of the musoca. Every precaution must be taken to eliminate shock by speed in operating, suitable anesthesia, warmth before, during and after operation and by subcutaneous and rectal salines before operation and after returning to the bedroom. Hemorrhage can be prevented by incising in the bloodless area and ligating all vessels cut. Blunt dissection will lessen the hazard of perforating the mucosa. After the wound is as deep as thought necessary the two cut surfaces should be pulled further apart. This tissue does not retract as muscle usually does. If any remaining fibres are left uncut, they will be easily seen and can be broken with a hemostat. If these precautions are heeded there should be no inadequate freeing of the mucosa.

Feeding should be begun soon after the operation. Usually in one or two hours the child can take water or diluted breast milk. Small amounts should be given every half hour. In forty-eight hours the amount is gradually increased. In four or five days

the baby is put on the breast. Usually these babies vomit no more and gradually gain in weight.

The treatment of pyloric stenosis should be surgical in all cases, except those with the milder type of obstruction. Prolonged medical treatment before the baby is sent to a hospital is the most common cause of mortality. The operation of choice is pyloroplasty, because of its low mortality and the base on which it is preformed. This operation is one of the most gratifying in surgery.

DISCUSSION.

Dr. S. W. Johnston (Vicksburg): I want first to commend Dr. Harvey for the brevity of his paper and for the fact that he carried everything in it. The paper could have been much longer and still have had very little more meat in it.

The point of interest in pyloric stenosis is the fact that about sixty per cent occurs in the first-born. Still reports 248 cases, thirty-seven of them only being female, 148 of the 248 cases being in the first-born. A tumor in a child's abdomen, if a boy, in the first-born points very clearly to pyloric stenosis. I have seen but two cases. The first was a child that I delivered. When I discharged the mother and the baby about the end of the seventh day, the mother and child seemed perfectly well. They brought the child back at the end of three weeks extremely emaciated. The little fellow didn't weigh more than three or four pounds. In giving it ether it died before we could open the abdomen.

The second child I saw when twelve days old. We did a Rammstedt operation and it recovered. I think these children, when they do recover, seem to be healthy and just as normal as any child. The cases reported that were operated on in years gone by have never had any recurrence of symptoms.

During the eight years that I was superintendent of the state charity hospital, we had a predominance of negro babies. The percentage of negroes in the hospital ran about eighty-five to ninety per cent. I never saw a case of pyloric stenosis in a negro, and I wonder if there is any reason that a child of negro parentage should not be subject to pyloric stenosis.

The mortality runs a great deal higher in those who are treated medicinally. Startling reports out of a series of thirty-seven cases treated medicinally a mortality of eighty-four per cent. Out of fifty cases treated surgically he reports a mortality of only forty-eight per cent.

There have been cases reported of twin boys (Dawes reports a case), the first-born of the twins having pyloric stenosis.

Again I want to commend the doctor for his paper and for the brevity of it.

Dr. E. C. Parker (Gulfport): Gentlemen, in this paper there are two things which I should like to emphasize. One is to always do the operation under local anesthesia. It is so much easier and there is so much less danger. For years, Dr. Bevan of Chicago has given his patients a little sugar and whisky and then, under a local anesthesia, he has been able to do the operation in a few minutes with practically no shock to the patient.

Another point I wish to emphasize as brought out by the doctor is doing a blunt dissection. Remember, the tissues are very tender and with a sharp knife it would be easy to get into the mucous membrane and cause a fissure. Always use the handle of the knife or pair of hemostats for a blunt dissection.

If taken in time, all the patients practically should recover. In the borderline cases the roentgen-ray should be used. If you take a roentgenogram and find a typical dumb-bell you certainly have a typical pyloric stenosis. A typical pyloric stenosis resembles a dumb-bell with just a little handle across the middle.

I think we should use the roentgen-ray more often on these cases in which we are not positive, those cases suggesting symptoms of pyloric stenosis, but still not positive enough to rush in for operation.

Dr. Joe E. Green (Richton): As you all know, I am not a surgeon, but I do think there is one point in the doctor's paper. Not knowing too much about surgery, I think I can agree with Sid Johnston, by what little I know about it, that Dr. Harvey covered the field in a short time.

There is only one thing that he did not give and that is the symptoms which might lead the general practitioner to discover this condition.

Most of us always instruct the mothers to feed the baby and to feed him plenty. If he gets too much in his stomach, he has a way of getting rid of it, and he will do it without any effort. He has a pop-off valve and it will pop off if he overloads. But you had better be on your guard. There is another condition that does occur—early sometimes—almost just as soon as the baby begins to get milk from the mother's breast. Sometimes the parents are prone to prolonging the time before calling in the family physician. They are proud of the fact that the baby is so strong, that he can vomit way out yonder. That is the only point I want to make—projectile vomiting.

I do give medication, and probably everybody else does, but do not prolong medication if you do not get results. If we continue to wait until the baby is dehydrated and its vitality low, the surgeon will be handicapped and the undertaker will win the baby.

Dr. T. B. Sellers (New Orleans): I want to congratulate Dr. Harvey on his excellent paper. There are a couple of points I should like to mention. One is the diagnosis.

Recently one of the leading pediatricians brought a patient into the hospital with a diagnosis of pyloric stenosis and I had really planned to operate that afternoon. But this pediatrician said, "Suppose we take a roentgenogram." We did, and a fair amount of the bismuth went through. Still there was some obstruction. We decided to try a large dose of atropin. We did and the child recovered and is getting along beautifully today.

I feel that we should use all the means at hand to confirm a diagnosis in the early cases. Of course, if a child is in a desperate condition—emaciated as we so often see them—you haven't time to go through many therapeutic tests. Atropin in this case certainly saved our necks from going into what I believe was a pyloric spasm rather than a pyloric stenosis.

There is one other point and that is to remember that this is a small child, an infant. Just as one doctor said, we should use all precautions to prevent shock, and most important is to use small instruments, small needles, because all those things will help to reduce shock, the very thing those little fellows cannot stand.

In my first case of pyloric stenosis, about the fifth day I went to dress the wound and found a loop of the bowel protruding from the wound.

I am glad the doctor mentioned the question of through and through silkworm retention sutures. I think that is certainly worth while to keep in mind, because you will have evisceration if you are not careful.

Dr. W. W. Crawford (Hattiesburg): I will not prolong this discussion. I should like to answer the question raised by Dr. Johnston with reference to the appearance of this condition among the colored. I would say that about two years ago I had a case in a young negro child about four months of age. The child was badly dehydrated, and looked to me to be a typical case of pyloric stenosis. We had to give a hypodermoclysis and use other means to try to get the baby up to a level where we could do the proper sort of procedure.

When we opened the abdomen, instead of finding a pyloric stenosis we had a condition of a congenital anomaly in which the transverse colon had insinuated itself up behind the duodenum and had come out above the pylorus, making intermittent pressure in that point. At times the colon would become greatly distended with gas and at such times (which was most of the time, in fact, with this child) was the cause of the dehydration that existed. It had nourished just a little. It had lived for months. The distention of the colon was the obstructive factor there rather than any congenital defect in the pylorus itself.

The case was most unusual and I have found nothing just like it in the literature. I mention it here because of that fact.

Dr. A. B. Harvey (closing): I want to thank the doctors for their general discussion. Before proper treatment can be instituted correct diagnosis must be made. A correct diagnosis will rarely ever be made unless we bear in mind all the possibilities, and that is why I brought this paper—lest we forget.

ABDOMINAL SECTION AND ITS CONSEQUENCES.*

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This paper is more particularly addressed to general practitioners of surgery and medicine. The establishment of general hospitals over the country on the lines of first defense where acute pathological surgical diseases can be treated promptly, and therefore efficiently before complications have been established and serious consequences follow, is the order of the present day. The entry of the abdomen in acute abdominal conditions has become a routine of good surgery rather than purgatives, diet and wait. With proper asepsis and hospital facilities modern technic has made the procedure of entering the abdominal cavity so safe that I fear that we may have a tendency to enter this surgical sanctum sanctorum occasionally without due and proper consideration of its significance.

As time progresses and science is more thoroughly elaborated we cannot afford to slacken in our purpose to have our surgeons more thoroughly equipped and fitted for their work. For many years past, there has been a great inclination to specialize in practice, until we have practically left the general field open and wanting; but I believe that this tendency will reverse itself, sooner or later, and we will have a greater number of men doing a general practice than we have had in the immediate past.

It is very fine when a patient is fortunate enough to have plenty of money to have his physical defects thoroughly studied by various specialists and finally determine what is necessary to do and then to be able to select the specialist, who can most thoroughly do this special line of work under which this disease falls and submit himself for that particular operation; but when it so happens that a client is stricken down suddenly with what we term an "acute abdomen," the general man, with a condition like acute appendicitis, rupture of tube in tubal pregnancy, acute obstruction of bowel, etc., has no time left often even to make a definite diagnosis at all. So it becomes a paramount issue for this first line man to operate or allow his patient rapidly to approach a dilemma in which even the most special man may not succeed. It, therefore, becomes necessary that general men in small towns do a great deal of surgical intervention. With this in mind it becomes paramount that we should be conversant with the dangers always contingent upon entering any abdomen; for the cure or relief of the patient.

It should be well remembered that there are two main purposes to attain on entering an abdomen: First, the physical or anatomical; second, the physiological results. It is horrifying enough on the part of patients to be subjected to surgical procedure with all of its horrors and dreads but it is very chargrining to surgeons to see the bad results of poor operative technic consequent upon the operation upon the abdomen such as large scars, areas of anesthesia, hernia, etc.

The smoothness, symmetry and beauty in general makeup and contour of the human body, when in the perfectly natural and well developed state, is attractive even to the eye. The alertness, physiologic response and the multiplicity and complexity of the nervous system and the musculature of the human body is also very attractive to study and to see working in phenomenal way. The retention of this contour and this physiologic acumen is therefore to be kept very vividly in mind, when doing any operative procedure that requires insult to these tissues and their physiological activities. No tissue should be cut—skin, fascia, muscle, nerve or even bone without the utmost purpose of restoring that tissue in

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apposition, approximation and restoration to its vital powers.

In studying the abdomen, it is a very intricate fleshy cage for the gross protection and retention of a very vital group of organs, the principal of which is the gastro-intestinal apparatus. Within this gastro-intestinal apparatus food by physiochemical processes is converted from various elementary products to the most wonderful biological makeup of all nature's production — human flesh, protoplasm, living physiologic substance. Equally wonderful in this structural mechanism is the abdominal walls. At each side and to the mid-line in front we have the fleshy cage intricately woven by no two tissues running prallel except where continuity of nerves, blood vessels and lymphatics extend to support the lower extremity. The external oblique, internal oblique, transversalis and rectus abdominis form the principal muscles of this fleshy cage, this fleshy layer being covered by fascia and skin. For the sake of study the surface of the abdomen is divided into three zones, upper, middle, lower; and nine regions, viz., right and left hypochondriac, right and left lumbar, right and left iliac, epigastric, umbilical and hypogastric, the details of which are too academic to spend our further time. For operative procedure the lower zone in which most of the abdominal surgery is done is a very safe field for the surgeon to work; the middle and upper zone are tedious and less safe in proportion as we approach the diaphragm.

The principal operations for which the abdomen is opened are appendicitis, cholecystitis, obstruction of bowel, operations on the stomach and operations on the female pelvis. There is not much latitude for sites of choice because incisions must be made so that we can approach the pathology in view, but the abdomen being made up entirely of soft tissue there is some discretion on entering sites where there will be least destruction to the tissues that are to be invaded; for example, avoiding large arteries and important nerves by choosing sites of midline, para-medium, gridiron or intermuscular, etc. Another thing to bear in mind on entering an abdomen is what necessity we will find on the operation of our pathology, whether drainage is to be installed or whether each tissue is to be apposed, approximated and closed in unique and perfect mechanical condition. If drainage is to be instituted we are certainly to expect the interposition of artificial scar tissue that is both inimical to physiological results and productive of weakened and less vital strength than the original native type.

If we would undertake to imitate nature on making any ingress to, or egress from, the abdomen we might note well the mechanical structure of the inguinal canal. The internal ring entering one layer of tissue then through separated planes of tissue structure more or less parallel to those structures, then making exit at another site through another plane of tissue, producing the greatest strength for the tension of abdominal contents which have a constant tendency to protrude through any weak spot in the abdomen. In males, which sex must give patency to this canal, we have a large percentage of hernias. It is right important, therefore, to note in passing the defective mechanism of nature or weakness produced by this exit from the abdomen. How much more difficult must it be for us to make an artificial opening and leave results so that the physiological equation may be perfectly well satisfied.

This method of entering, pulling aside other layers of tissue and finally entering at a site some distance from the original entry, thereby producing an overlapping of the various planes of anatomical structure is very ideal provided we know before hand that we have a clean procedure in which all tissues may be brought together, sutured in layer, making the strongest possible result. But if we have an anticipated long continuous drainage, with drainage tubes installed, this method is calculated not only to defeat our purpose of drainage but to

produce a great deal of destruction to the various layers of tissue. While we wish the drainage to continue it has a constant tendency to obstruct us, and when the drainage is completed we have to expect an immense amount of plastic tissue which has low vitality and an inclination to give us hernia. This same objection prevails with the gridiron or McBurney incision. We should anticipate with apprehension the result of any opening in the abdomen where there is long continued drainage for there is continued strain on the abdominal wall from abdominal contents, from gravity and from gaseous distention within the gastrointestinal tract. The entrance through the midline is very ideal in that the hemorrhage is very insignificant, the number of layers fewer, destruction to nerves reduced to a minimum and depth of incision very insignificant. It is also ideal in its approach to the female pelvis or abdominal conditions where exploration is a matter of necessity in that we may, with extension of the wound, examine abdominal organs through a midline incision. Inasmuch as each side will provide its own nerves for the tissues of a midline incision, there is not the paresis of structures following the incision.

Veins in the abdominal wall correspond chiefly with the arteries; from the thoracic and abdominal aortae, both iliac and internal mammary. Principal bleeding that is encountered is in or near the rectus muscle; the deep epigastric at the outer border and lower end being very deep and largely posterior to muscular structures should be cautiously safe guarded on account of its retraction and recession when cut, giving unnecessary loss before instant and proper control can be made. Incisions in the midline are almost bloodless.

The anterior abdominal wall is rather richly supplied with nerves coming from the spinal cord, from the sixth intercostal to the first lumbar inclusive, traversing the abdominal wall from the side anteriorly and downward, making an oblique sweep over the anterior abdominal wall, penetrating the recti transversely, meeting their fellows of the opposite side. Hence there is not much danger to destruction of nervous tissue on entering between the oblique and transversalis muscles, layer by layer, observing carefully each thread and pulling to one side in order not to destroy function. Not so within the rectus muscle, fibres of nerves being transverse to that of muscular striae.

Sites of incision are the midline, above and below the umbilicus, to either side on either edge or through the rectus muscle, and the McBurney and gridiron incisions. In the midline the aponeurosis heals very readily making a strong repair scar, sometimes even stronger than the original, minimizing the probability of hernia and when the skin is properly approximated leaves no anesthesia or hypersensitiveness. The suphapubic midline incision gives the most universal access to any part of the abdomen below the umbilicus, I think being the choice site of incision both in drainage cases and in clean cases of the female sex. The right rectus or paramedian incision slightly outward from the inner aspect of the rectal sheath, pulling the right rectus outward, entering posteriorly slightly outward to this, gives a most beautiful theoretical and practical entry for all clean cases for pathologies in the iliac or lumbar region. When drainage must be installed with this overlapping of planes the tendency is both to defeat drainage and to destroy the various overlapping planes of tissue.

The gridiron incision, half way between umbilicus and iliac spine, is very ideal where there is a clean procedure to perform and very little manipulation to be done. In the upper zone the subcostal, on either side along the arch, and the paramedian slightly outward to the inner edge of the rectus muscle gives us entry for the gall-bladder and liver. The median line gives very good, probably the best, access to the stomach. In reviewing the cases during the course of my surgical experience of abdominal sec-

tions I have seen very few hernias which I consider the most serious consequences of abdominal surgery, and when we have completed the technic of entering the abdomen in clean cases so that all tissue will be brought back together and sutured to like tissues with due approximation, coaptation and matching of all parts under aseptic precautions, we can hope for all poor results to be minimized. When drainage has to be established with long continued holding of the tissues apart by some foreign substance as drainage material, and with pus, which is inimical to repair, pouring over structures which are finally to be repaired and brought back together, it is poor hope that we will be able to eliminate all bad results. As to minimizing the after effects of muscular paralysis in abdominal sections we should note well on entering, at other than midline, fibres of nerve tissue, pulling them to one side, avoiding the outer aspect of the rectus where these fibres cross so freely and contrary to the course of the incision. Abdominal surgery is becoming a very popular field but there must not be any letting up of effort to perfect and secure better results.

We may not hope that just cutting and tying in abdominal surgery is going to give us the happy results that we would take a pride in showing in two or three years after the operations have been done. Abdominal surgery is a true science and a true art and he who would operate well must know the anatomy of the abdomen and apply the mechanics thereof.

DISCUSSION.

Dr. John Darrington (Yazoo City): Dr. Arrington's paper seems to be more of a general discussion of abdominal surgery. I do not think there are any special points that require emphasis.

Doctors of this generation have seen abdominal surgery come into its own. Our forefathers regarded ailments within the abdomen as beyond the hope of treatment. The knowledge of asepsis and anesthesia gave birth to abdominal operations. I just wonder how many thousands and thousands of people have died in generations past for the lack of that knowledge. It is a wonderful thing when we consider how urgent matters are so greatly delayed before we discover them. Think of the millions of children who have died from diphtheria, and just in this generation have we found a preventive and also a specific.

We wonder concerning the cause of delay. We wonder now concerning the cause of delay in the knowledge of abdominal ailments, but we have learned a great deal in the last few years about the pathology of abdominal ailments and what to do for them.

Of course, our operation on an abdomen is an assault on perfectly sound tissue in order to give us an opportunity to relieve the diseased tissue within. We should be extremely careful to do as little damage in making this operation as possible.

I had a maiden lady not long ago who needed an abdominal operation. She said, "Will there be much scar?"

I said, "No. Not a great deal."

She left and about an hour or two later she sent for me, saying, "Come here right away. I want to talk to you. Are you going to open my abdomen?"

I said, "Yes."

She said, "Will there be an ugly scar on my abdomen?"

I said, "No, no. There may be a little line, but it will not be bad."

The next morning when we were ready to operate she provoked me considerably by asking concerning the scar again. I said, "What is the matter? Are you going to put this abdomen on exhibition? Is that your reason for being so careful of its appearance?"

She didn't ask me anything more about the scar on the abdomen.

The type of incision you make, of course, depends on the ailment within and what is necessary. Dr. Arrington speaks of the McBurney incision as being an ideal incision for an appendix that is not bound down with adhesions or on the verge of rupture. You have a limited amount of space in using a McBurney incision, and it very often happens that you need a great deal more space after you get in there. For that class of patients you have a better abdominal wall and a stronger abdominal wall from a McBurney operation than from any other method of opening the abdomen. I presume it is being used in more cases than any other type of in-

cision, the right rectus incision being ideal where it is likely you will need a larger incision.

I know of no special points brought out by the doctor, except that I think we should be extremely careful not to cut open abdomens which do not need to be cut open. The greatest asset in a doctor is honesty, along with conscientious work. People have faith in you, and the worst thing an individual can do is to violate the faith and friendship of another individual. There is a tremendous responsibility upon doctors, and any man who approaches an abdominal operation with any feeling other than that he would do the operation if it were a member of his own family or himself is not keeping faith. If he will set that standard and stick to it, I believe he will meet the ideal attitude of the surgeon toward the patient.

Dr. O. N. Arrington (closing): I have nothing to add, except to emphasize the points that I intended to make in reading this paper. We are operating on a perfectly innocent tissue and we want to leave no bad results on this innocent tissue. The point of entry perhaps for the general man to secure this sort of entry and exit is the paramedian incision just to the inner edge of the rectus muscle.

If we have a clean procedure I usually use the width of my two fingers from the median line on entry, if it is a medium size patient; if it is a large patient, I increase it. I usually strike just to the inner edge of the rectus muscle, pulling the rectus aside, noticing carefully for nerve structure and not cutting nerve tissue; entering slightly the internal oblique, making thereof three layers to produce the greatest possibility of shrinkage in the remote result.

In all female operations by the general man who is not especially a surgeon, perhaps the median line below the umbilicus is the best of all. It seems that this tissue will grow back together and be stronger even than it was originally.

I want to emphasize this feature in securing the minimum amount of scar tissue in the skin. We have all noticed in apparently minor operations, where the abdomen had to be incised, some skin tissue grows back together with practically no scar, while through some other apparently innocent procedure it will grow back together and leave an intense scar. I think this can be anticipated, to some degree, by doing what Dr. Matas has long taught. When we go to remove or when we have removed our approximation sutures, or even after the operation it is sometimes done immediately, we should take strips of adhesive and pull the skin very closely together. This is especially important when we finish the operation and take out the sutures in order to hold the skin very closely together so there will be a minimum of scar tissue of the skin. This is particularly important also when the wound is healed by granulation when there is going to be a large scar tissue area. That will help the general men some in entering and getting out of the abdomen with the least amount of harm to the innocent tissue.

PERIMETRY.*

JAMES D. PERDUE, M. D.,

MOBILE, ALA.

In discussing this subject today I realize that all of you are familiar with it, and also that it is a dry subject, but I believe it is one that is neglected by most opthalmologists in the smaller cities. I am trying to stress this important aid in diagnosis and prognosis.

What do we mean by perimetry? It is the study of central and indirect vision, or that part of the fields from which the eye at rest can receive impressions. Our limited time and small fees in this section make it necessary to do our examinations very rapidly. Some oculists use nurses or technicians for this work, but unless one has a practice large enough to give these helpers much experience, their findings will not be accurate.

The necessary equipment is inexpensive and simple. I am naming only the minimum requirements. They are as follows: A hand size perimeter for bedside and hospital use, a stationary perimeter, a tangent screen and some form of stereoscopic instrument for central defects. The Lloyd slate is one of the best instruments for this use, but it is expensive. I use only the ordinary stereoscope with Bissell's and Haitz's charts. This is very cheap, and with these three simple methods one can get a good working idea of the visual fields.

*Read before the Section on Eye, Ear, Nose and Throat, at the Sixty-second Annual Session of the Mississippi State Medical Association, Gulfport, May 15, 1929.

Some factors that will influence the shape and size of the fields are refractive errors, such as high myopia, which tends to diminish, and hypermetropia, which tends to increase due to depth; the bony conformation of the orbital cavity, intelligence of the patient, influence of drugs, fatigue and illumination. If illumination is poor, the findings are very unsatisfactory and unreliable.

The type of stimulus is of great importance and should always be noted on the record, giving the size especially.

Care should be taken to acquaint our patient with the fixation point, otherwise his attention will be attracted to the stimulus and then back to the fixing point. It is a good idea to repeat the taking of the fields in twenty-four hours and then contrast our records. If we are in doubt about our findings, and are getting too many pathological fields, it is well to run some controls, and by so doing check up our technic. We may find that we have overlooked some of the factors that influence the size and character of our fields.

I shall not make an effort to describe the types of fields that we might expect in the various diseases and conditions of the eye, but shall enumerate some of them only, and stress the most important ones.

1. Non-inflammatory form of glaucoma, where we have no pain and good central vision as we usually do. Without the tenometer and perimetry we must let this class get beyond reclaiming before we recognize it with the ophthalmoscope and loss of vision. At this stage there is so much atrophy that operative treatment is not of much avail. Perimetry and the tenometer will also determine for us when miotics have failed, and also determine when operative treatment should be resorted to.

2. Then there is the great group of central lesions in which fields are of value, namely: pressure along the visual tracts; and intracranial tumors, especially those in the region of the chiasm. Fields are of great value in localization, especially in pituitary tumors; and increased intracranial pressure with choking of the disc, where central vision is very often the last to go. By checking the fields regularly, one can very often save blindness by advising the surgeon to do a decompression, if he is unable to localize the tumor. We cannot depend in these cases, upon the vision as an index for interference.

3. The great class of acute and chronic retrobulbar neuritis wherein the ophthalmoscope fails us, and where we have only the history of some visual disturbance, such as seeing objects distorted in shape and color, a black spot or spots on everything. Central scotoma can be plotted out in many of these cases, and the color fields give great assistance, since they are usually very much disturbed.

4. In accessory sinus diseases, we may be able to get valuable assistance that will help us to determine the type of operation and when to operate.

5. In optic atrophy, the fields will help us to make an early diagnosis, and also to determine the progress of the disease.

6. In functional nervous diseases, which are very difficult to differentiate from retrobular neuritis, we find that the recording of the fields is one of the most dependable aids. The reversal of color fields and the contracted fields even to the extent very often of five to ten degrees is found in this class of conditions.

7. In retinitis pigmentosa we are very often able to determine the prognosis as well as the diagnosis by our fields, even though we are helpless in this dreadful condition.

Many times our fields do not correspond with the other symptoms that go to make up our diagnosis. In these cases, we should refer to our text to determine whether or

not we are working toward the proper diagnosis.

The following is the report of three cases that I have had under my care recently:

1. A patient consulted me telling me he did not see well, and that he had gone to an oculist who gave him glasses. He had gone back repeatedly, but the oculist told him there was nothing wrong and that his vision was normal with his correction in both eyes. I got a careful history which revealed the fact that he had high blood presure, and had had an attack of unconsciousness about two months prior to this time, which was followed by vomiting, and that since this time his vision had been disturbed. His fields revealed a right sided lesion back of the chiasm (homonomous hemianopsia). A report was was given to his physician which should prove of service.

2. This case consulted me for refraction, giving many obscure symptoms in her history. As more or less of a routine examination, the fields were found to be very much contracted (tubular fields). Careful examination repeatedly showed her form fields to be only ten degrees. After a very careful examination of all possible causes, including neurological examination, I had to settle down on this case being a functional condition, in spite of my better judgment not to make such a diagnosis, as so often our ignorance is covered up in this manner and later we find pathological conditions. Two of the biggest factors in my coming to this conclusion were that the patient was able to drive her motor and to take her place in society without any handicap from her eyes, and that Dr. C. A. Thigpen, of Montgomery, whom I had consulted, agreed with me.

3. A man forty years of age engaged in mill work and who for the past year had been doing electric welding came in to see me complaining of a big spot in front of his right eye. This condition had come on suddenly, having been noticed only a week prior. His vision was fingers three feet, but he could see above and below as well as laterally. His vision was normal in his left eye. Stereoscope revealed central scotoma. However, the outlines were not very distinct. Fundus examination revealed some macula changes. However, this was not very definite. All examination for causes of acute and chronic retrobulbar neuritis proved negative. He was advised to discontinue welding, and to report in two weeks for further examination. At this time, his vision was 20/100. He gave a history of multiple small scotoma, which could not be outlined. Now the pathology in the macula region as well as above and below was a very definite retinitis. There were, also, some choroidal changes. Diagnosis was evidently one of electric retinitis.

If this article has served to call our attention to this much neglected field, and, if by so doing, makes us of more service to our patients and to our fellow physicians with whom we work, I shall be pleased in having chosen this subject.

DISCUSSION.

Dr. C. A. McWilliams (Gulfport): Perimetry really does enter into the ear, nose and throat work. With involvement of the posterior ethmoid group we do get some conditions that will give us some information as to indications for treatment or operation of the sinus.

My experience in the relief of optic neuritis has not been as satisfactory as we used to think it would be. For that reason I think that the trend now is to be of service in any operative procedure where there is any involvement of the eye, in the hope of restoring the sight.

I had spoken to Dr. Odeneal to take my place in this discussion but he has been called out of town.

Dr. W. R. Buffington (New Orleans): Perimetry is most carelessly done by most doctors. We are satisfied to get an ordinary perimeter in front of a window and go over a patient's field of vision and when we have finished we think we have done our duty. Being such an important instrument in diognosis of eye conditions it certainly is necessary to know some of the things that we should do.

Within the last few years I have been trying to impress patients and show them what they should do. It has been a difficult thing to teach them the importance and the necessity of detail in making the field of vision.

What must be the type of perimeter? The ordinary one with the standard curve is all right. I see them in the market with a bright shining surface. No field of vision can be taken accurately with a perimeter with a shining surface. It is more inaccurate in the study of perimetric vision. The front surface should be of a dull flat gray or flat black. No reflection should come from the surface of the perimeter.

Secondly, the light itself. The light should not be in front of the window at any time of the day, but equivalent to a clear sky at 1 o'clock in the day.

What is the position of the perimeter? You can't put it right here and take a complete field

of vision. There are six positions in which you have to move the patient and the perimeter. You must have the arm of the perimeter to the light so that there will not be the slightest shadow. You must have it here for the peripheral field, for the central field more like this, and reverse it and put the patient on this side, and by the time you have finished you have moved the patient and the perimeter six times.

The size of the object is an important thing. Perimetry must be done with the smallest object that the patient can see, especially when you are studying the central vision. If you are working at thirty-three centimeters your object must not be too large. The size of the target should not be over two or three millimeters.

You must have standard colors. You must constantly have your colors with the proper saturation in order to get an intelligent field. The standard colors are blue, red and green. If those colors are six months old they have so changed that they no longer have the proper saturation. All these things must be taken into consideration in taking the field of vision. It must be never taken just once, it takes time and repeated examinations to get a proper field of vision made.

Men have so much to learn about the eye, ear, nose and throat that they don't give the necessary time to the careful consideration of this particular thing. It is very important because it helps diagnose early cases of glaucoma. It will sometimes tell us the very earliest symptoms of a disseminated sclerosis. It comes in more important in all the various diseases of the brain. The frontal lobe tumor and the basal type will be made out by the oculist. The most frequent of all tumors are made out by the oculist.

Your color saturation is so important. In doing perimetry we must give the most careful consideration possible to the color, the patient and the light.

You don't have to have an expensive instrument in studying scotoma. Get a careful screen and put your patient at one meter from that and if his vision is good you use a five millimeter object.

Dr. Henry N. Blum (New Orleans): Perimetry is a method of study which has been used for many years. We know that perimetry has been neglected in our private practice for a number of reasons.

With a limited number of workers it is hard to go into all details of examination. However, those days are gone. There are a number of reasons why we should go more carefully into perimetry. One is the development of the recognized, or recently instituted, specialty of brain surgery. It is time to stimulate better methods of perimetry, our appreciation of the disturbance of the optic nerve and association with sinus disease. The importance of being able to make a diagnosis at an early time has stimulated the proper perimetric examination.

Dr. Buffington and Dr. Perdue have gone so carefully over this matter there is not much left for me to say. However, I want to say that for the determination of the periphery of the fields of vision a good perimeter is necessary. Nothing will give as much service as a good, large Duane screen.

It must be remembered that the field of vision is divided into several different zones or sectors. For the proper determination of the limits of the field it is necessary to have saturation to the proper illumination, the proper size and the proper color. In the perimeter examination for determination of the periphery of the field our targets are larger than for the examination of the central zones. On an average I think a perimeter with a four millimeter target is the correct size.

Blue is very important for the determination of our colors. Blue gives us certain characteristic changes in disturbances of the choroid that we would not be able to determine by using red or green. The examination with blue will give us very important information and we will be able to determine methods to prevent danger. We know that blue is distinctly a color which has to do with the function of the choroid.

For examination of the central and pericentral region a Duane screen is fine. We can magnify defects. The further the patient is seated from the screen the larger the defect will be found to be. It must also be remembered that we must not use only one fixation point. We must use a fixation point as small as is comparable with the patient's vision.

We are prone, some of us, to have fads, but we learn by experience after a while that we must be conservative in order to arrive at the exact truth. In the importance of determination of central defects were inclined to believe that a slight enlargement of the blind spot was of some importance. We know that this is not true. We know there is a zone immediately surrounding the blind spot. We must have an enlargement of the blind spot before we can make a diagnosis of the blind spot. One of the differential points in the diagnosis of so called papillo-edema is that in a true papillo-edema we have a disturbance in the vision from the very beginning. The patient's vision changes. The examination of the fields is

one of the methods we can use between an optic neuritis and a choked disc. Two men equally good may examine the same patient and come to a different conclusion. There is a difference between neuritis and a choked disc. We know that in a choked disc we expect to get an enlarged blind spot.

Dr. Buffington has called attention to the necessity for colors. I believe there are some discs in which the colors penetrate all the layers of the paper, but even this will fade after a while. It is necessary to renew our colors from time to time.

It seems it is not proper to leave these examinations in the hands of even our best friend, unless he too, is an oculist, but we should make the field of vision ourselves and not leave it to our assistants.

One field of vision is not a measure of one field of vision, not even two. It is necessary to specify the size of the target and the time of day. We should have a seven candle power perimeter. Some examiners use a black gown in order not to confuse the patient.

I think we have a lot to learn about perimetry.

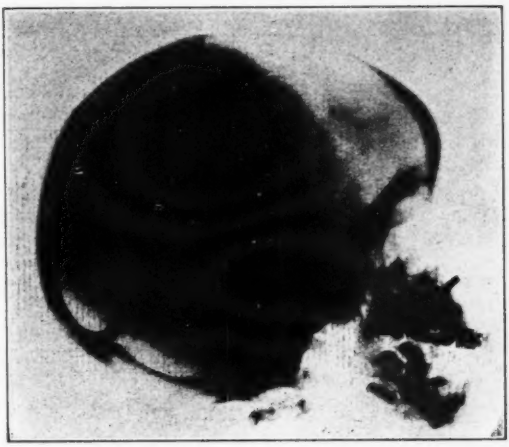
A REVIEW OF THE ROENTGEN FINDINGS OF BONE DISEASES OF CHILDHOOD.*

PRESTON M. HICKEY, M. D.,

ANN ARBOR, MICH.

Permit me first of all to express my appreciation of your invitation to meet with you today. Every roentgenologist coming to New Orleans remembers with gratitude the pioneer work of Dr. C. Edmond Kells who contributed so much to the art of dental skiagraphy. As the years roll by our sense of appreciation for those who gave their lives for the advancement of science will become keener and deeper.

The assistance which roentgenology may afford in the diagnosis of diseases of childhood is perhaps greater than the assistance which can be given with adult patients. The roentgen-ray can supplement the lack of subjective symptoms by more information of a purely objective type. The comparative thinness of the tissues permits of a better differentiation of the organs of the child when examined with this newer method of diagnosis.



This lantern slide is from a case of late rickets and illustrates the marked thickening of the skull in the frontal area. This thickening is produced by the osteoid deposits which are characteristic of this disease.

In casting about for a subject which might be interesting to both physicians and surgeons, it occurred to me that it might be wise to take an inventory of our knowledge of the more important bone diseases of childhood, especially those connected with nutritional changes. The merchant and the manufacturer at intervals take stock of the material on hand, and it is worth our while as medical men to follow their example and review some of the important findings in our daily work.

The marked development of the machinery of the roentgen-ray permits us to make practically instantaneous exposures in our pediatric cases so that the blurring incident to movement of the child has been practically banished. In connection, I would like to add a suggestion, that the little patient have his roentgen-ray examination before he meets other laboratory workers, especially those who use the needle to obtain material for their examination.

We will take up some of the conditions which have their origin before birth and some of those which appear after birth as the result of endocrine disturbances, infec-

*Read before the Louisiana State Medical Society, New Orleans, April 9-11, 1929.

This slide illustrates the striking findings in achondroplasia, found in dwarfs but not in midgets. The characteristic roentgen findings in achondroplasia are the short extremities without change in the length or size of the trunk. The epiphyseal ends of the bones are misshapen. In this slide there is marked deformity of the femoral heads and distortion of the neck and greater trochanter. The lower ends of the femora are expanded and show gross increase in the size of the bone trabeculations. The same type of changes are seen at the upper ends of the tibiae.

Although there were many beautiful pictures, there is just one point I want to speak about, and that is the first slide. I believe the trouble with most men, when they interpret bone pictures, is that they look at the roentgen-ray of a bone without any idea of what they are going to see. I think if we started our interpretation of bone roentgen-rays with some idea of what we were looking for we would see a lot more in most of them.

I should like to emphasize Dr. Hickey's first slide, which said: "What are you looking for?" You are looking for changes in bone density, decrease in lime salts, increase in lime salts, changes in architecture. If every man looking at the roentgen-ray plate of a bone would simply try to build up for himself a skeleton outline of what he ought to see in there, what he ought to look for, and where the changes are likely to occur which mean something to him, I think instead of just having a very vague, indefinite idea of what he sees when he looks at bone roentgen-rays, he would really get a great deal from them.

That is the one point in Dr. Hickey's talk that I wanted to emphasize.

Dr. E. C. Samuel (New Orleans): There is nothing I can add. I think everybody has said everything that is necessary. I told Dr. Hickey what an excellent paper he has. There is nothing I can add.

Thank you very much.

Dr. P. M. Hickey (closing): I should like to express my appreciation of the courtesy of the next essayist for exchanging places.

In regard to osteomyelitis, I might say that I realize the point of the speaker and I emphasize it to my post-graduate students. I tell them where there is a clinical history of osteomyelitis they should put in their written reports at the end, "The roentgen-ray shows no changes in acute osteomyelitis until the end of the second or the beginning of the third week," so that of the clinician is waiting for roentgen-ray changes we should tell him, by including that little phrase not to wait. I think that is a point very well brought out, that the medullary canal may be full of pus and show no roentgen-ray changes until you have the diminution of the lime density of the cortex and the beginning breaking down of the bone.

With regard to the question of knowing the changes in the roentgen-ray appearance during the developing years of childhood we try, at Ann Arbor, to impress that on students in the Freshman year. Dr. Huber, Professor of Anatomy at the University of Michigan, very kindly extends to me the courtesy of six lectures to the anatomy students, which I illustrate by lantern slides showing the development of the body in fetal life, and also in post-natal life, so that students get an idea of the fact that the anatomy of the child is a branch by itself, and one which has to be thoroughly studied before one is competent to attempt the interpretations.

Thank you very much.

INDICATIONS FOR TONSILLECTOMY*

H. L. ARNOLD, M. D.,

MERIDIAN, MISS.

No one will question the statement that the tonsils are among the most common points of focal infection. The conditions due to focal infection and the benefits which result from the removal of the foci of infection are too well known to all to require mention.

It is in the examination of the individual cases that we most often find diverse opinions. It is evident that frequently we do not see alike or we do not think alike, for I am sure that all of you see cases which have been advised both for and against the removal of the tonsils. There is nothing more destructive of confidence than a disagreement of medical advice. I am not making a plea for more or for fewer tonsillectomies, but rather for a more careful study of cases and for a better understanding with patients as to the results which may be expected. Too often we see patients who have had the tonsils removed, and while the tonsils may have been diseased, the patients are bitterly disappointed because some systemic condition is kept active by infection in the teeth, sinuses or some other point of focal infection.

In the examination of the patient we have to consider several points:

1. The history of the patient. Certainly any patient with repeated attacks of tonsillitis is a candidate for operation, no matter how innocent appearing the tonsils may be.

2. The size of the tonsil. If there is sufficient enlargement to obstruct the throat, this alone is a definite indication for tonsillectomy. Frequently we see patients who have been told that they have no tonsils, when really they have the most dangerous of all, the small buried tonsils.

3. The presence of pus in the crypts is sufficient indication for removal, but the presence of cheesy material is not so definite, nor do I attach much importance to cultures.

4. The appearance of the pillars is considered by some of diagnostic value, but you find few adults without some reddening of the pillars.

5. The condition of the cervical glands is to my mind one of the most important indications of tonsillar infection. Enlarged cervical glands, in the absence of other possible source of infection, especially if the glands are tender, are among the most reliable indications for tonsillar infection.

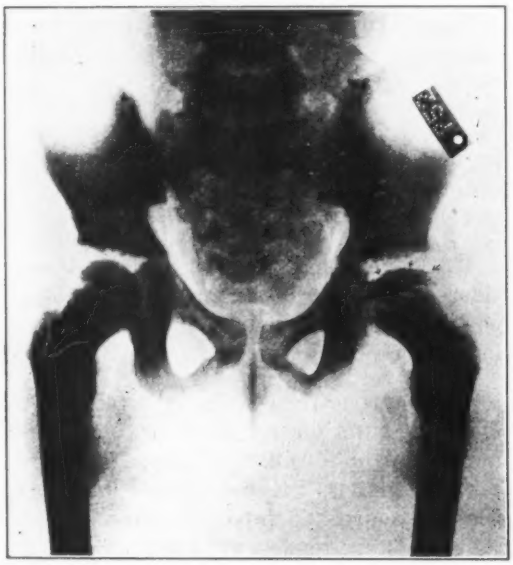
6. Systemic effects which may be due to tonsillar infection brings us in close contact with the internist. If we can find evidence of infection of the tonsils, we should advise removal of the tonsils. If there is no evidence of infection, we should advise removal only if no other cause can be found. No one can say positively that a tonsil is not a focus of infection.

In the consideration of the subject of tonsillectomy other questions arise:

1. The age of the patient. Some seek arbitrarily to set a definite age before which they object to the removal of tonsils. A search of medical literature fails to find a single instance where it has been definitely shown that the absence of the tonsils has been a detriment to the child. Apparently the function of the tonsil passed with that of the appendix. As to the upper age limit, I see no reason to set any definite age, if the patient is in condition to undergo the operation and there is a reasonable chance of prolonging life or of making life more comfortable.

2. Operations on singers and public speakers are frequently objected to because of fear of interference with the voice. If

*Read before the Section on Eye, Ear, Nose and Throat, at the Sixty-second Annual Session of the Mississippi State Medical Association, Gulfport, May 15, 1929.



This lantern slide illustrates a condition which is frequently mistaken for tuberculosis of the hip, namely: Legg's-Perthe-Calve's disease. The clinical symptoms of tuberculosis and of this disease are quite similar and the diagnosis is best made by means of the roentgen-ray. The characteristic findings are flattening and often fragmentation of the femoral head; non-involvement of the acetabular cavity and the apparent thickening of the femoral neck.

tions and trauma. We would like to present our subject principally with lantern slides illustrating the findings of these various types of cases. In making this presentation we desire to accentuate first of all that the roentgen findings should always be considered as aids in diagnosis. While some findings are pathognomonic, the ultimate diagnosis will depend upon the assembly and consideration of all of the clinical and laboratory evidence.

The student of roentgenologic plates of childhood should have a familiarity with the roentgen appearance of the developing skeleton as it varies at different ages. No one should rashly express diagnosis conclusions in this field unless he has the proper background to fit him to put forth diagnoses based upon roentgen evidence.

(Dr. Hickey showed, at the conclusion of his introductory remarks, a large number of slides illustrating the roentgen findings of bone disease in childhood. Lack of space permits the publishing of but a few of these splendid slides.—Ed.)

DISCUSSION.

Dr. E. S. Hatch (New Orleans): I simply want to say how deeply I appreciate being asked to open this discussion on the paper of Dr. Hickey, who has persistently done so much for the men who are doing bone and joint surgery.

It is not necessary to go into discussion of these cases which he has presented. They speak for themselves. I feel he should be given a vote of thanks by the Society for coming here to show us these pictures.

Dr. E. D. Fenner (New Orleans): I had the misfortune to miss a very considerable portion of Dr. Hickey's demonstration.

My feeling is that, of course, there is nothing particular to say about this demonstration in the way of discussion. It is simply a beautiful collection of striking cases of bone disease in childhood, which permits us to visualize the differences between these diseases.

I feel quite sure if I had had the industry and the opportunity to make pictures of the cases I have seen, I would very easily be able to duplicate at least the majority of the cases exhibited here. The thing I feel grateful for is that somebody else has had the industry to preserve records of these cases, give us here, within a few minutes,

The roentgen diagnosis of scurvy in this case was doubted by the clinicians who said that the child had been taking orange juice for weeks. The slide shows the round ring-like appearance of the epiphyseal center for the lower end of the femur. The epiphyseal center has also in addition a homogeneous appearance which has been called the ground glass desity. The pathognomonic appearance, however, of scurvy is seen in the subperiosteal hemorrhages in the lower left tibia which appeared subsequently also along the shafts of the femora. It is interesting that with the substitution of tomato juice for orange juice, the child showed rapid clinical improvement.

Cranio-cleido-dystosis is a somewhat rare condition in which we see a defect of the frontal bones and also of the occipital bone. While the defect in the frontal region is quite striking in its roentgenologic appearance, still the covering of the brain is quite firm. In the posterior portion of the skull there is a very peculiar mosaic-like formation which simulates the appearance of the wormian bones. Associated with these findings in the skull there are usually defects in the shoulder girdle with a partial or complete absence of the clavicles. During the growth of the child there is a bending of the weight bearing bones of the body, and in this case in the hip the angle of the femoral necks has been changed.

a complete atlas of the bone diseases of childhood, and permit us to visualize the difference between them.

I don't know whether Dr. Hickey made this statement or not. There is only one more thing I want to say. I feel quite certain that I missed pictures of acute osteomyelitis, and inasmuch as my service, extending over many years in the hospital, has brought a very large number of these cases to my attention, I never miss an opportunity to try to emphasize and repeat the fundamental fact that osteomyelitis doesn't show any bone changes at the very period when it needs treatment the most.

By the time you get bone changes visible in your roentgen-ray picture the patient is so sick that he is either going to die or be an invalid for months and years. I think that thing about osteomyelitis should be emphasized whenever we get an opportunity to do it.

Dr. Isidore Cohn (New Orleans): The only word, outside of appreciation and commendation, I can add is to ask Dr. Hickey, in closing the discussion, to emphasize a bit the importance of the radiologist and surgeon, as well as the pediatrist, appreciating that the appearance of the normal epiphysis may many times mislead a man as to what he is dealing with.

I think the most notable example is where knee pictures are mistaken for so-called Osgood-Schlatter's disease. In reality, many of these are nothing but normal epiphyses with no disease associated.

If we would interpret these more often in the light of the normal appearance, fewer mistakes would be made. I hope Dr. Hickey will mention something in regard to the normal, in closing.

Dr. F. G. Dickson (Kansas City, Mo.): Through a great many years, I have always found when Dr. Hickey is on any program it pays me to be there when he gives his demonstration, because I always learn something from it, for this reason: that he always has beautiful slides, and he always says what he has to say in such a clear, concise way that it leaves you with a very definite picture of what he is trying to show.

I am sure he has a great many other pictures that he didn't get a chance to show, and I regret very much that that is so.

Slipped femoral epiphysis. This subluxation, occurring between the epiphysis of the head of the femur with the shaft, is one in which the etiology is still a matter of discussion. Many of these cases present suggestions of endocrine disturbances but these dieturbancee are not found in all of the cases. Traumatism is probably frequently an exciting factor although there must be a preliminary softening of the tissues along the epiphyseal line.

the operation is properly done, there is little or nothing to fear, in fact the voice is likely to be improved by the removal of the diseased tonsils.

3. Operation on patients with high blood pressure should be undertaken only after consultation with the internist, and I suspect that we are all relieved when we can return them to the internist without tonsils and without hemorrhage.

4. Tonsillectomy during active tonsillitis and peritonsillar infection is advocated by some, but this seems to be dangerous and violates all surgical principles. No doubt it has been done successfully, but the danger of systemic infection would seem too great. If done under local anesthesia, it is certainly a much more difficult operation, and a general anesthetic is not desirable under such conditions.

5. Tonsillectomy in any of the acute contagious diseases, especially scarlet fever, is advocated by some. In certain conditions this may be justified, but certainly not as a routine measure.

6. Tonsillectomy during the course of some secondary infection, as nephritis, endocarditis, otitis, rheumatism or other secondary infections which may be due to infected tonsils or adenoids, is a more reasonable procedure. In any case of secondary infection which does not show improvement, a tonsillectomy should be done, unless there is a definite reason for not doing it.

DISCUSSION.

Dr. Chas. A. McWilliams (Gulfport): I would like to stress one point in reference to the indication for tonsillectomy. It is really not so much the indication for tonsillectomy as it is the symptoms that children very often display when there is an involvement of the tonsils. In fact most children referred by the general practitioners are sent in with the advice that they have their tonsils and adenoids removed. We find quite a few who not only have diseased tonsils and adenoids, but have a para-nasal sinus infection as well.

In every case of a child who has had tonsils and adenoids removed and still has the same symptoms they had before operation they most probably have a sinus infection. We should make it a point to investigate every child's sinuses when they consult us for the removal of diseased tonsils and adenoids. Mothers as a rule attribute all colds to diseased tonsils and adenoids and while a majority of cases are free of colds after removing diseased tonsils and adenoids some continue to have what they call head colds. They have an idea that after the tonsils and adenoids have been removed nothing else can be done for such repeated colds. These colds are practically always followed by a cough.

Recently I had a case of a child six years old. Last year I removed the tonsils and adenoids and we took a roentgenogram which showed some cloudiness in the maxillary sinuses. The child gave a history of having a cold practically all the time, but improved quite a good deal after the tonsils and adenoids were removed. The child developed a cough eight weeks ago, a diagnosis of whooping cough was made. The temperature ranged from 101° to 103°. Roentgenograms showed both maxillary sinuses very cloudy.

They were opened though the inferior meatus and irrigated. The child made a rapid recovery after the operation.

One of the indications for the removal of tonsils and adenoids is a sinus infection in children.

By Dr. E. F. Howard (Vicksburg): If the tonsils and adenoids should come out and the man finds that there is also a sinus infection, I don't know that in those cases the advice of the general practitioner is not right. When we operate on the throat we find that the sinuses very frequently clear up. We can't blame the practitioner for his advice.

I was very glad indeed to hear the little point that Dr. Arnold made on the acute conditions. A good deal has been said on that subject lately and I have known a number of men advise the removal of tonsils to cure peritonsillar abscesses. Personally, I have never had the nerve to do it and I don't think that I ever will.

There is a question of anesthesia in such operations. Local anesthesia is unsatisfactory and we don't want to give general anesthetics. Nearly all the white hairs in my head were acquired in just such a case as that. A patient had bilateral peristonsillar abscesses, and the general practitioner who was handling her insisted on general anesthesia to open them. She got the general anesthetic. She died temporarily on the table. She came to, but I have never seen a worse frightened man than the practitioner who gave the

anesthetic, and I was quite unhappy myself for a few minutes.

Dr. Geo. E. Adkins (Jackson): When I heard the title of the paper I was wondering if it would not have been much to mention the contra-indications, rather than mention the indications. Apparently one might talk a week on indications and then not scratch the surface.

Someone asked me the other day if all tonsils were diseased, and I answered them by saying that I had served an internship in a hospital in Chicago and since visited a number of large clinics, that I had seen almost every man in Mississippi in action and many in other states and that I had a few thousand tonsillectomies to my own credit, with all this I supposed I had seen more than a hundred thousand tonsils lying out on the table, and as far as I was able to say I had not seen a good one out, so I conclude from this that they are all bad and would be better out than in.

I agree with Dr. Arnold that there is no age limit. Some of the best results we have gotten has been in children as young as six months. Tonsilectomy in the young is an easy job and usually without complications, I have gone the other extreme to the age of seventy-five years and frequently a patient with a high blood pressure (one case ran as high as two hundred and twenty-five blood pressure at seventy-five years) and the final outcome was satisfactory. Within the last fifteen days I have removed the tonsils from a patient of sixty-eight years with a coagulation time of eight minutes plus. He was an undesirable case certainly, but his physician said if the tonsils were out he would have ten to fifteen good years to live and if not out he could not at least be an active man and could not live long. This bleeding time apparently could not be lowered, so after explaining to him that he was risking a life and I a reputation we proceeded. The case worked out well on the operating table, but we lost blood every day for eight days, not alarming, but enough that I spent some of the night at the bedside and was not so sure of the final outcome. I am glad to report that it is satisfactorily both to life and reputation.

Children referred to us for the removal of tonsils and adenoids may have infected sinuses. A great many of them do, but certainly we are not going to treat a chronic sinusitis in a child and expect to get favorable results without first taking the tonsils and adenoids out, and when this is done the majority of them get well. As I said before I should think the contra-indications for tonsilectomy would be a much shorter subject than the indications.

By Dr. W. H. Frizell (Brookhaven): I would like to say a little in defense of the general practitioner. I am a good deal like Ella Cinders. Tonsils are like careers—they are bad and better out. Get in favor with the general practitioner. He, like you, makes errors in diagnosis sometimes—frequently. I believe it was the Mayo Brothers Clinic that missed it in a high percentage themselves, after all the laboratory tests, etc. When the general practitioner sends you a tonsils and adenoids case you take them out. Don't criticise the practitioner. Never let the cat out of the bag. Tell the patient he has sinusitis and if you don't see fit to take the tonsils and adenoids out then treat his sinusitis. If his sinusitis does not get well take his tonsils and adenoids out. You will make a friend out of the doctor and the patient too.

If you will agree with the doctor, even though you don't do everything he says, he will believe that you are also a roentgenologist or whatever you will want him to call you. He will send you another patient.

By Dr. L. S. Gaudet (Natchez): Dr. Frizell made a remark that was very interesting. My paper yesterday tried to bring out the point of closer co-operation between the practitioner and the specialist. I wish to say that in the future, as well as we have done in the past, but more so in the future, let us try to get the eye, ear, nose and throat men and the general practitioners, closer together in the State of Mississippi.

I believe that when a general practitioner sends you a patient it is no more than right, fair and courteous on your part to write him a letter and let him know you appreciate it. In the second place, after you have examined the patient write to that doctor and tell him what you have found. If you have done any laboratory work or have had any laboratory work done let the doctor know the results. He will appreciate that and the patient will too. Sometime in the future the doctor can better treat that same patient with this knowledge so let us get closer together, because we need the general practitioner a whole lot more than he needs us many times.

By Dr. H. L. Arnold (closing): It is quite true, as Dr. McWilliams said, that in the sinus infections the first thing you should do is remove the tonsils and adenoids. We should examine the case, and if possible diagnose sinus trouble before removing the tonsils. Patients are disappointed when they have continued colds and discharge which they have been led to believe would be relived by the removal of the tonsils and adenoids.

In acute tonsilitis and peritonsilar abscess I never like to remove the tonsils. Certainly under these conditions we are more likely to get a pulmonary abscess if not a general systemic infection.

I don't know whether Dr. Frizell thought we were criticising the general practitioner. I did not mean to cirticise the general practitioner. I mean we should have closer co-operation between the specialists and the general practitioner. All cases should be examined more carefully, more thoroughly, than probably we are doing.

VINCENT'S ANGINA.*

R. A. CLANTON, M. D.,

GRENADA, MISS.

It is because of the apparently increasing number of patients who come to me for treatment of Vincent's angina and not because I hope to add anything of value, diagnostic or curative, that has prompted me to discuss this subject.

In referring to Vincent's angina, I wish to limit myself to the disease in its attack upon the tonsils, pharyngeal and nasal tissue, and mouth. Whenever the disease attacks the integrity of the peridental tissue, I refer the patient to a dentist, because I feel that the alert dentist can treat the diseased peridental tissue better than I.

No doubt this disease is as of great antiquity as that of any other specific disease, but it was in the 90's of the nineteenth century when Vincent, a Frenchman, described a bacillus found in certain types of ulcerated tonsils. Vincent, and others who worked at it about the same time, discovered that in certain types of ulcerated tonsils, there was associated a fusiform bacillus and a spirillum. There are different opinions among bacteriologists as to the bacillus and spirillum. Suffice it to say that they are always found associated in Vincent's angina.

*Read before the Section on Eye, Ear, Nose and Throat, at the Sixty-second Annual Session of the Mississippi State Medical Association, Gulfport, May 15, 1929.

The disease is not confined to the tonsils, but attacks the gums, hence, it becomes of interest to the dental profession; it attacks the tongue, palate and buccal surfaces of the mouth. It is also said to attack the mucus membrane in distant parts of the body. The disease certainly lowers the patient's vitality and resisting powers, causing them the more easily to fall victim to other maladies. So this Vincent's angina is of interest to all of us, the specialist in every line of medicine, the general practitioner and the dentist.

The disease is often spoken of as trench mouth, because the soldiers who served in the trenches during the World War were attacked in great numbers, and no doubt many of these men who returned home were suffering from this disease in its chronic form and thus became the source of its spread to the people of our own and other countries. So, in a sense, the disease is both infectious and contagious. Thus it has become a menace just as many of the other infectious and contagious diseases. We should therefore caution our angina patients to be careful in order that they may protect the innocent and prevent its spread. The disease is easily communicable and is spread through discharges from lesions and by carriers, and by indirect infection from common drinking cups and eating utensils. Poor food, bad air, excessive use of alcohol and tobacco are other predisposing factors in the development of the disease that deserve mention.

Diagnosis is readily and only positively made by swabs taken from infected areas, smears made upon a clear glass slide, stained and examined. The disease may be acute or chronic, therefore there are many carriers. Even when the disease is efficiently treated it may recur. Therefore, after the disease is apparently cured, we should from time to time take swabs from suspicious areas of the mouth for examination.

If the disease is acute, or inflammation has become deeply seated, there may be

some fever and the submaxillary glands become swollen. The breath is foul and there is more or less salivation. Pain is always pronounced in the acute form of this disease, being almost diagnostic. When the ulcerations fully develop, the affected tissue resembles the slough produced by carbolic acid burn.

The prognosis is usually favorable, except when the disease occurs in the latter stages of tuberculosis and other wasting diseases. It is indeed fortunate that this destructive disease is amenable to careful treatment.

The remedial agents used in the treatment of this disease are many. After having treated many, many cases of Vincent's angina, I have come to the use of a 50 per cent solution of silver nitrate, which I apply to the parts affected. I then give a prescription of S. T. 37, to be applied to parts affected, or used as a gargle every few hours. I have found this treatment highly efficient, so much so that I rarely resort to any other procedure. However, I have some patients who did not respond to the above treatment, but who did respond beautifully to the application of salvarsan and the intravenous use of neosalvarsan.

In reading over the literature on this subject, I was attracted by a paper written by Dr. O. C. Rigby in 1927 on the "Intermuscular Injections of Bismuth—A Specific Treatment fof Vincent's Angina," in which he reports remarkable cures of Vincent's by the use of potassium-bismuth-tartrate, 0.2 mg., with butyn.

We should bear in mind Vincent's angina when treating patients suffering from sore throat, because of its tendency to chronicity and because of its infectious character.

DISCUSSION.

Dr. G. G. Armstrong (Houston, Miss.): I think Dr. Clanton should be complimented for his good and original paper. This is very appropriate at this time, I think, owing to the rapid increase of this disease, and which, it seems, is going to be of considerable trouble.

One of the most characteristic points in the clinical diagnosis, I think, is the dark appearance over the infiltrated spots where there are ulcerations. Very frequently we see patients who have had antitoxin given them. We do not see many cases in which this course is pursued as a safety first proposition. Looking over some of the literature it seems that the opinions of some of the men vary considerably. I notice one says that he has never seen Vincent's infection in the active state in people who have had their teeth removed. The last two cases that I have examined were very severe cases, of people who have had their teeth removed. Another says that he has no hesitancy in removing the tonsils. He thinks it helps correct the vision and reports fifteen cases with good results. Another reports post-operative hemorrhages due to Vincent's infection. Another says in unsuccessful submucus resections he attributes the failure to Vincent's infection.

The acute stage is soon over with and we have not much trouble with that as in the chronic stage. One reason is that it seems hard to keep the patient with you. They get over the pain in the acute condition and you can't keep them long enough and have them report in order to follow the cases up. Of course, it is necessary to remove all decayed teeth that might harbor infection. The gums should be treated. The general condition of the patient is important also. I have tried a great many remedies, including salvarsan and have come to the conclusion that a 20 per cent mercurochrome solution used as a mouth wash is very good.

Dr. B. S. Guyton (Oxford, Miss.): I think this is a very timely subject since Vincent's angina is becoming so prevalent, and I am glad Dr. Clanton has brought us this splendid paper and I hope we will have a free discussion.

In a paper on buccal spirochetosis by Dr. Carpenter, of Greenville, South Carolina, he brings out the fact that quite a large percentage of people are carrying the organisms even though only a few show pathology. Taking fifty cases of tonsillectomy in the order in which they came, bacteriological examination showed the spirochetes and fusiform bacilli in 50 per cent, 13 per cent showed the bacillus without spirochetes, 37 per cent showed neither. Several weeks after removal of tonsils the percentage of positive smears was much less. He comes to the same conclusion that Bloodgood does, that the organisms are rarely ever found in patients without teeth, and goes further than Bloodgood in implicating the tonsils. He brings out also the fact that there are several varieties of spirochetes to be found in the mouth

and throat, but he takes the stand that the spirochetes are pathogenic only when the fusiform bacilli are present also. The bacillus is by itself non-pathogenic. He goes on the assumption that they are two separate and distinct organisms. Others claim that the organisms are one and the same in different stages of the life circle.

Bloodgood in describing the lesion mentions that in the very beginning of an infection, "The single spot is at first a red area of irregular outline, never sharply defined, of such a peculiar redness that it might be called the erysipelas of the mouth. The center of the red area may be covered with a whitish or grayish patch which is really due to the superficial destruction or necrosis of the red mucus membrane. Beyond this superficial slough there is still a red zone. It is not unlike a minute gumma in which a central zone of necrosis, surrounded by the red zone of collateral anastomoses of increased vascularity, is recognized. In this stage, because of the little gray or whitish slough, the condition may be confused with leukoplakia, but the latter is never surrounded by an inflamed and reddened mucus membrane." He states also that, "The diphtheritic type as a rule can be distinguished clinically from diphtheria by the fact that, regardless of how diffuse the involvement or how extensive the ulceration and fibrinous exudate, the patient does not exhibit toxic symptoms."

It has been brought out that with uncomplicated Vincent's infection around the teeth pus cannot be pressed out of the lesion. In the pygenic infections pus can be pressed from the gums.

Dr. Reasoner of the Army Medical Corps claims that, "Solution of ordinary toilet soap as well as pure soaps prepared in the laboratory have a selective action on this class of organism and have a definite spirocheticidal effect."

Of course, we all know Bloodgood has advocated the use of perborate of soda for treatment. Methylene blue, mercurochrome, arsephenamine, neocarsephenamine, iodin, silver nitrate, acetic acid and numerous other chemicals are used in the local treatment.

The intravenous injection of arsenic as Dr. Clanton mentions is no doubt the best treatment when a systemic infection has taken place. I recall a medical student who, after the local lesion had disappeared, developed a secondary pericarditis with effusion. This cleared up from the neo-salvarsan treatment.

For the local lesions I have for a long time used an application of 20 per cent glacial acetic acid. Almost immediately the patient is more comfortable. I frequently used a mouth wash of perborate of soda. Recently I have been using a prescription given me by a dentist, which has seemed to be very efficient. I will give you this with a hope that some of you will try it out.

Wine of ipecac	℥ iii
Glycerin	℥ v
Fowler's sol.	℥ v
Hydrogen peroxide 8.s.,	℥ iii

Sig: Hold in mouth one minute several times a day.

I have enjoyed Dr. Clanton's paper. I feel that his statement that we have many carriers should be emphasized and sanitary precautions should all the more be taught in our schools and among adults. Adults are far more susceptible to this disease than children, probably due to the poor teeth and pyorrhea.

Dr. Edley H. Jones (Vicksburg): I think this type of paper is the most interesting to all of us because it is of a condition we see frequently. I had quite a discussion some time ago with one of the best dentists I have ever known, and he and his associates are of the opinion that the spirochetes are always found around the gums, especially in those cases that have so much of the so called tartar formation. His method was to always treat any mouth before even extracting the teeth. He had a unique method. It bears out the oxygen stressed by Dr. Guyton. He takes an ordinary spray pump and goes all the way around the edge of the teeth and then applies a 10 per cent solution of mercurochrome and 50 per cent alcohol and dries it off. No one treatment is apparently specific. I have adopted a routine treatment but I find frequent cases where this routine treatment does not suffice, and change to others. I prescribe a sodium solution for the patient to use at home. When one solution fails I change to another one.

There is one other point of interest in this condition and that is the fact that post-operatively you must be on the look out for infection. Two or three days after tonsillectomy if I find one of these red spotted white membranes I get busy with my neo and glycerine to eradicate the infection. I have eliminated a large percentage of hemorrhage by using this treatment.

Dr. A. G. Wilde (Jackson, Miss.): I am going to discuss the apparently specific action of soap. In the army we made the soldiers use not the ordinary Colgate's dental cream but the ordinary shaving cream on the tooth brush for their teeth. Using this two or three times a day has been finally adopted as being fine.

COMPLICATIONS OF PYOGENIC EAR DISEASE.*

J. R. HUME, M. D.,

NEW ORLEANS.

An eminent medical authority has written a book of several hundred pages upon the "Complications of Pyogenic Ear Disease;" so it is well to define at once the limitations of this paper.

Extenson of these infections of the tympanic cavity to the mastoid process shall be considered as existent and this most frequent complication of purulent middle ear disease, which is obviously of great interest only to the otologist, will be considered together with the tympanic cavity as the seat of our basic foci of infection. Any further extension of this process from this focus becomes at once of almost equal interest to the opthalmologist, radiologist, brain surgeon, and during infancy and early childhood, to the pediatrician.

Complications resulting from infections in this region may appear as toxemias, blood stream infections, or inflammatory reactions due to direct extension to the important structures in the immediate neighborhood.

Of the toxemias, those noted in infancy and very early childhood have been the subject of the most discussion during the very recent years. Alden and Lyman, in 1925, reported seventy consecutive cases of autopsies on infants who had died of infantile diarrhea, in which suppuration of the middle ear was found in each instance. Less than half of these cases had been diagnosed as otitis during life. At the Bettonean Hospital, Reinaud, in a like number of cases, found at post-mortem suppurative lesions of the ear extending to the whole petrous bone.

Practically all observers have noted slight, if any, clinical evidence of otitis; the symptoms presented being those of "cholera infantum." The absence of pathology found in the intestinal tract at post-mortem, certainly suggests an infectious toxemia. It seems, however, that this condition is not so often noted in this climate as in the colder and more changeable climates farther North. This latter conclusion is drawn from the absence of case reports of this character from the Southern section of the country. However, co-operation between pediatrician and otologist in the study of infants suffering from infantile diarrhea, certainly seems advisable in the presence of the evidence presented by our confreres in other parts of the world.

The nature of the complications by direct extension is dependent upon the avenue of escape of the infection. If perforating the roof, or tegmer antri, a plate of bone much thinner than the mastoid cortex, we have an extradural abscess, which may, perhaps be the beginning of a cerebral abscess. Passing backward toward the posterior fossa, we may have a peri-sinus abscess, sinus phlebitis or thrombosis; extradural collection of pus in the neighborhood of the cerebellum or cerebellar abscess. Passing downward the infection may spread to the jugular bulb. This latter complication is not clinically distinguishable from a like lesion within the lateral sinus. It is evident that from whatever route the infection may enter the cranial cavity, a circumscribed or widespread meningitis may result.

Less frequent of occurrence, but of an even greater seriousness are those infections that pass by way of the labyrinth through the nerve channels into the internal auditory meatus, through the aqueductus cochlea, directly into the sub-arachnoid space, or from the vestibule through the aqueductus vestibuli. By any of these labyrinthian routes a widespread leptomeningitis is likely to occur.

Of the intercranial lesions of otitic origin, the extradural abscess is of most frequent occurrence. This term is applied to any collection of pus between the dural coverings of the brain and the contiguous bone sur-

*Read before the Louisiana State Medical Society, New Orleans, April 9-11, 1929.

face. If occurring between the dural wall of the lateral sinus and the arched plate or bone separating it from the interior of the mastoid process, it is termed, a perisinus abscess. Abscess in this location, is the intermediary stage of sinus phlebitis and blood stream infection; if in the cranial fossa, the intermediate stage of practically every brain abscess of otitic origin.

Extradural abscess usually present no symptoms other than those of the causative factor, in the tympanum and mastoid, such as localized pain, severe headache and slight elevation of temperature. That the diagnosis of this condition is usually made during the operation of mastoidectomy and the rapid recovery noted after proper surgical intervention, serves to emphasize the fact of the remarkable resistance of the dura to the action of infective organisms.

With the exception of extradural abscess, the other complications under discussion present symptoms sufficiently characteristic to permit of a reasonably accurate diagnosis. In every infection attended with severe headache, nausea, vomiting, temperature and disturbed mentality, we should at once consider an intercranial lesion or involvement of the venous sinuses.

A comparative chart of the principal symptoms, outlining a differential diagnosis between brain abscess, meningitis and lateral sinus thrombosis, would give us, in a general way, the following picture. No attempt will be made to localize intercranial lesions as that is entirely within the province of the brain specialist.

In brain abscess, the temperature is often high at onset following rigor and soon returns to normal with excursions thereafter slightly above or below. In meningitis the temperature is also high at onset following rigor, but continues at a high level during the course of the disease. The same is true of sinus thrombosis at onset, but after a few hours falls to normal or slightly above. A similar excursion is repeated within twenty-four to forty-eight hours.

The pulse in abscess is slowed, sixty to fifty or perhaps forty beats per minute; in meningitis, a rate of one hundred and twenty, to one hundred and forty, is usually recorded. Sinus thrombosis shows an acceleration during the period of pyrexia.

During the formation of brain abscess, headache is usually severe, but frequently disappears after a few days; headache is an early symptom of meningitis and persists during the entire course of the disease. In sinus thrombosis this symptom is often absent, though sometimes complained of while temperature is high.

Vomiting in abscess is projectile in character; in meningitis it is not a constant symptom; it occurs in sinus thrombosis after taking food.

The mentality in abscess is normal or mildly confused; in meningitis, the patient is semi or unconscious. In thrombosis, normal.

Eye examination in abscess may show unilateral dilation of pupil, discs may show uni—or bilateral choking. In same cases, eye findings are negative. In meningitis, the pupils are equally dilated; any change in discs being a late manifestation. In sinus thrombosis, unilateral engorgement of the disc is usually noted.

The blood picture in abscess seldom shows leukocytes above ten thousand; in meningitis, the usual range is between ten and fifteen thousand; in thrombosis, between fifteen and twenty-five thousand. The pressure of the spinal fluid is higher in abscess than meningitis; in thrombosis, normal or slightly increased.

Bacteriological studies reveal the fact that the streptoccocus, in approximately forty per cent of middle ear infections showing complications, is the offending organism. However, any micro-organism capable of producing disease in the tympanum may likewise produce any of the complications under discussion.

Often these most serious complications are recognized too late for successful treatment because of their rare occurrence.

In ear infections requiring mastoidectomy, from eight to ten per cent are complicated by either extradural abscess, brain abscess, meningitis or lateral sinus thrombosis. Certainly, this is of sufficient frequency to keep us diligently watching for any danger signs that may present themselves during the course of otitic infection.

Early diagnosis with localization of the infection and immediate surgical drainage are the essentials to even a fair measure of success in the handling of these cases.

DISCUSSION.

Dr. G. C. Anderson (New Orleans): Dr. Hume has certainly covered a lot of ground in his short paper, and it seems to me it is done very well indeed.

I believe his chief plea is to bring out the necessity of early diagnosis in these cases in order that they may be referred to the particular people who might be of help in the handling of them.

About eight or ten per cent of the advanced cases of this nature can be expected to shop intracranial complications and, fortunately, a large proportion of these are extradural. As he brought out, the dura forms a tremendous barrier to the infection and that in itself is responsible for the ease which these cases are handled, and the low mortality.

In certain others it occurs in the subdural space between the dura and the cortex, and the true brain abscess is one that occurs actually in the matter of the brain and is a localized encephalitis. If it doesn't become localized it doesn't go on to the point of abscess, and if the condition spreads death will intervene soon.

About 60 per cent of these cases, according to Sharp, occur in the temporosphenoidal lobe; about 25 per cent in the cerebellum, and the remaining 15 per cent occur in the frontal lobe, or in the positions which are contiguous to the point of infection under fractures, and so forth.

The diagnosis is not nearly so simple as it sounds. The cerebellar abscesses are rather easily diagnosed, but those in the supraterritorial region frequently offer a very baffling question of localization far more difficult of diagnosis.

In the surgical handling of these cases there are a good many mooted questions which prove that no procedure is universally satisfactory. For example, the question of spinal puncture is debated. It is undoubtedly of value from the standpoint of cell count, globulin determination of pressure, and so forth.

On the other hand, some contend that the disturbance of the cerebrospinal circulation will favor the spread of the infection before it has become localized. A ventriculogram is often of tremendous help in localization, but it, too, carries a certain amount of risk, not only the degree of risk that is attached to ventriculography, per se, but the possibility of the sudden withdrawal of the pressure allowing the abscess to rupture into a ventricle, which would be a terminal condition.

I should favor spinal puncture, because I have seen many cases in which it was not followed by any adverse conditions, and I have found ventriculography a great help in some cases.

The question of the time and method of operation requires a great deal of consideration. The operation, of course, is far more favorable if it is done after the encephalitis has become localized and has formed a limiting membrane. If an exploration is made in an early stage of encephalitis without localization, the prospect is not so good for it will probably spread and become generalized.

The manner of operation is also debated. Eagleton, who has had a wide experience, favors turning down a bone flap. This, of course, gives a wide exposure and allows of a thorough exploration, but to turn down a bone flap is a major operation and requires a great deal of time in any case. If it is further complicated by an increase in intracranial pressure, and still further by a pyogenic focus, we have factors which may very well turn the scale against the patient.

A great many surgeons, notably Coleman, who has written a paper on this subject quite recently, favor exploration through a trephine opening, and these may be as many as necessary. In this way you can expect to avoid a hernia, with a fungus, which is the bugbear of the neurological surgeon.

When you replace a bone flap in the presence of increased intracranial pressure, you face a certain hazard. If you add to that, infection, your wound may break down and allow a tremedous hernia to form with a fungus, which could hardly happen through a trephine opening.

In the matter of drainage, we have just as wide a variation. Dandy, at one extreme, will evacuate these abscesses through his needle and close up

the wound without any drainage. If the pressure signs recur, he will do this again, and probably again, and he claims very good results with this method, thinking that the relief of tension will allow the brain to heal.

At the other extreme stands the method of King, a wide decompression with a complete unroofing of the abscess; that is, taking off that part of the brain which overlies the abscessed cavity, and depending on the intracranial pressure to evert and extrude this abscess with its membrane. After that, of course, he has the hernia and the defect in the skull to contend with.

Mosher uses a wire mesh cone to put into the abscess cavity, and Cahill has reported excellent results with this. Personally, I haven't had experience with the cone, but I know at times the brain will grow in through the interstices and make the removal of the cone difficult. Midway between these stand all methods of drainage.

I have seen and had some very good results by using the eye end of a soft rubber catheter through a trephine opening, and I believe that will give about as good results as any other method.

There is just one more thing I should like to say, and that is on the question of irrigating these cavities. I am firmly opposed to any irrigation. The tube can be taken out at intervale of a few days, boiled and replaced, but if it should so happen that there is a great deal of difficulty encountered in replacing the tube, force should not be used. This difficulty can be avoided by using a double drain either rubber or glass tubes, one fitting inside the other. The inside tube can be taken out and cleaned as desired, the outside tube being left in place. As the abscess cavity gradually becomes smaller the tube will be slowly extruded and can be shortened from time to time as may become necessary.

I thank you.

Dr. Homer Dupuy (New Orleans): Over 50 per cent of intracranial suppurations, meningitis and abscesses, are caused by middles ear infections. This, of course, includes the secondary mastoiditis, for the route of infection is either through the roof of middle ear or by way of mastoid antrum. Dr. Joachim, one of our pioneer local otologists, will bear out my statement, that such brain complications as abscess gave a very high mortality. But, it is encouraging that we are unquestionably reducing this terrific mortality. I limit my remarks to brain abscess. Its death rate is still too high, early diagnosis is lacking. Convulsions, slow pulse, and coma, mean cerebral pressure which is a late manifestation. Even then we may and do save lives by locating and draining the abscess. We are now asking for more than this, we are seeking early recognition of initial symptoms of cerebral suppuration, and this antedates the pressure symptoms of slow pulse, convulsions, choked disk, amnesia, which are patent brain lesion signals.

What are these initial symptoms of cerebral suppuration, brain abscess? True, they are rather vague, and it is a question of refinements, and it is up to our alertness to recognize these first danger signals. There is a malaise, a general physical depression, a well-accentuated headache, a chill, marked or slight, with vomiting spells, and some rise in temperature. And these are the only first signs we have to work on, but if with these we have present middle ear and mastoid suppuration, we must ask ourselves is possible for such pus foci to infect the brain structures? In this particular instance, by elimination of other causes, is it not only possible, but highly probable, that with this initial clinical picture there is beginning brain suppuration? Even the suspicion of such will start thinking and working in the right direction. There will be earlier diagnosis, less damaged brain structure if we operate during this first stage and better prospect of a cure. It is the proper valuation a chill, headache, vomiting, with a co-existing pus focus in the ear or mastoid, or both, which is going to further reduce our brain abscess fatalities.

Dr. Otto Joachim (New Orleans): I am very sorry I did not hear the beginning fo the doctor's paper on the complications of pyogenic ear disease. The subject of pyogenic ear complication is so vast and so enormous that it can not possibly be covered in a discussion of any one day, or even of any one week.

In the consideration of the complications of the pyogenic ear, we have to distinguish between those conditions which are due directly to an extension of the process into surrounding tissues, which are either to the brain covering, the brain, or the blood vessels or adjacent nerves, and those conditions which are due to the transplantation of pyemic material by the way of lymph or blood vessels into distant parts. The latter have always been of particular interest to me. The extension of the pyemic process to the surrounding vessels outside of the brain, causing the extradural or the subdural abscess or to the brain causing abscess, meningitis or to adjacent nerves are productive of lesions at times easily tunes difficult of diagnosis, calling for the collaboration of the trained ear surgeon and the neurologist. It is here, again, that the best results are obtained by their combined ability.

The recognition of brain abscess in its earlier stages or of the extradural abscess may be extremely difficult, and again not so very difficult. It depends more or less upon the exact location of the diseased process and the ability of the diagnostician to evaluate such symptoms as may be present.

I have seen brain abscess cases that walked around for quite a while before they were discovered. Some were primarily operated on for a mastoid. They went home apparently well and came back in four weeks with pronounced symtoms of brain abscess which then was operated on. Under careful and proper treatment these cases usually had a favorable termination.

Those conditions are strictly within the field of the surgeon of otology.

I want to come back to those complications of pyogenic ear disease which often affect distant parts of the body. Here we have the pneumonia of otitic origin which affects children particularly, which is of extreme importance, and occurs in the course of a pyogenic middle ear disease.

On the other hand, we have colitis of otitic origin which affects children very often causing disturbance of the bowels. They will show the diarrheal symptoms analogous to those of summer complaint, but they do not get well under the proper diet, and do not get well under the proper care of the pediatrician until the ears are examined and pent up pus material is found. With the relief of this condition, the colitis subsides.

It has been stated, and I think with a good deal of assurance, that a good many cases of appendicitis are due to infections of the ear. These are the conditions where the general surgeon, the general physician and the ear doctor come in contact and merge into the field of general surgery. The more we go back to affairs these combined efforts of the surgeon, of the internist, of the neurologist and the specialist, the better success we have in our efforts.

I thank you.

Dr. W. A. Wagner (New Orleans): It is impossible to add anything to this most complete résumé given us by Dr. Hume. As Dr. Joachim says it would take days, almost, to cover the subject, and I fully agree with him.

There is one point I should like to emphasize. Etiology in relation to ear complications. One can not cover a subject like this unless clinical diagnosis, pathology and bacterial extensions are fully covered. Consequently, etiology comes into play, and on that basis I should like to say just a few words.

In speaking of etiology, it becomes necessary to classify mastoids before discussing complications. As the topic of the paper is "Complications of Pyogenic Ear Disease." In the classification, all the membraneous ear diseases, the pyogenic and the hemolytic streptococcus infections, the specific ear diseases, syphilis, tuberculosis and diabetes. In the classification one would not leave out specific ear diseases in its relation to complications, as pyogenic infection usually follows the specific diseases. The specific infections are usually complicated by cellulitises in the soft parts, extraperiosteal abscesses, Bezold's abscesses, cellulitises in the neck, descending deep cervical cellulitises in the mediastinum, and occasionally intracranial involvement.

The membranous type—diphtheria, is frequently complicated by pyogenic infection with its complications.

Next, the hemorrhagic mastoid, or the hemolytic streptococcus infection. This type of mastoid gives us our greatest and frequent complications, as septicemias, thrombophlebitises of the mastoid and lateral sinus thrombosis. This probably worries most of us, and is non-pyogenic.

The true pyogenic mastoiditis and middle ear infections are of two types; type I a true purulent type, or the so-called "coalescent mastoiditis." Into which group would fall streptococcus pyogenes, staphylococcis, colon bacillus and pyocyaneus. The pyocynaeus is a very desperate organism in our branch as far as its complications are concerned. Many times you find pyocyaneous abscesses of the brain. The other type is type II: the mucopurulent. In that type we have four, the influenza, the pneumococcus organism No. 1, No. 2, and, worst of all, No. 3, or the micrococcus or diplococcus capsulatus mucosus. It is the bugbear of that coalescent type in contradistinction to the hemolytic type. The mucosa type or the pneumococcus No. 3 is the type which rarely gives us our lateral sinus thrombosis, but frequently produces our extradural abscesses and, most of all, our meningitides and many of our encephalitides. Rarely does it produce brain abscesses, because of its virulence, after striking the meninges. It is so virulent and so violent that it doesn't give the tissues time to wall off the infection to produce abscesses. This I mention in contradistinction to the true purulent types enumerated above which give us or brain abscesses.

Dr. J. T. Crebbin (Shreveport): The simplicity of this paper appeals to us. Dr. Hume has covered the ground throughly, so there remains little for us to add, excepting, possibly, to emphasize a few points: first of all the early recognition of these complications are most important. We

should bear in mind that almost any infantile disease may have complications.

Relative to the early diagnosis, this is necessary, in fact, the success of our treatment depends upon this knowledge to a great degree. Nausea, vomiting and headache almost invariably point to brain complications.

It is essential that the pediatrician, the neurologist, brain surgeon and the otologist should be in closer co-operation than heretofore, so as to intelligently treat these complications.

The very fact that we are now operating sooner than before points to better team work along these lines.

By more conscientious and more intelligent investigation, brain abscesses are being recognized, the proper treatments are being given, thus reducing our fatalities considerably. The early recognition of complications and early operative procedure are most essential if we expect to cure our patients.

Dr. W. M. Johnson (New Orleans): The structures most concerned in infections of the upper respiratory tract are the faucial tonsil and the adenoids, the central mass of Luchka's tonsil. Bacterial infection here finds lodgement and is swept into the blood and lymph circulation. Few discoveries in medical science surpass in importance the fact that the pharynx is the origin of most ear affections. Otology has made its greatest strides since Meyer of Copenhagen, in 1874, discovered adenoids. This was the nucleus of our present day knowledge of exogenous otitis media.

As a matter of fact the adenoids, which are ordinarily removed for the relief of both nasal and eustachian involvement, are only one portion —the largest, it is true, but only a portion—of the mass of lymphoid tissue which is to be found in hypertrophic conditions. The removal of adenoids and tonsils relieves most cases and is sufficient in others to entirely eradicate aural disturbances, but we know that in many cases surgery alone has failed to clear up the otological pathology. The reason can be explained by referring to the anotomy of the angle of the pharynx and the pathological changes to be found in those cases which do not yield to surgical intervention alone.

The fossa of Rosenmuller has been given little attention anatomically and pathologically. When seen by the aid of the pharyngeal mirror it appears as a slight depression, oval in form, its largest diameter nearly vertical and situated behind the posterior rim of the eustachian orifice, forming the recess or angle of the pharynx between the lateral and posterior walls. The true anatomical formation of this fossa modifies greatly its importance. The depression which we see with the mirror is merely the orifice of a conical cavity, one-half to three-quarters of an inch in depth, extending along the posterior wall of the eustachian tube—a blind pouch, with the apex outward, nearly opposite the isthmus of the eustachian tube. In the orifice and dotted all over the inner surface of the fossa is found adenoid tissue, which, in conjunction with the swollen and thickened mucus membrane in inflammatory states, retains within the cavity mucus, and when infected, a mucopurulent secretion.

This cavity becomes a cesspool for infectious material, and is the last portion of the pharynx to clear up after an inflammatory process has been present, remaining filled with mucus and mucorpurutant material, after other structures are entirely free.

During this period the patient almost invariably has occlusion of the tube, tinnitis and slight deafness. Catherization produces a muffled sound, with bubbling of mucus and then a clear passage of air if the tube opens, to be followed perhaps, immediately by closure, and the same uncomfortableness as before.

The tube is closed not from within so much as from its posterior wall being pushed forward against the anterior wall by the pressure of a swollen, edematous, infected pouch—the fossa of Rosenmuller—behind the eustachian tube. A continuation of this condition results in a chronic thickening by hyperplasia of tissue, so that the tube is permanently narrowed or occuluted, which leads to otitis media and deafness.

Our first problem is to eliminate the focus of infection in the upper respiratory tract, remembering that it is caused by an over production of lymphoid tissue which covers up and closes in an area which has become infected. The continuation of the effort which nature makes to eliminate this infection builds up lymphoid tissue and thus holds the infection deeper and more affectually.

Dr. G. B. Collier (New Orleans): Dr. Hume has covered the subject very thoroughly. I have seen Dr. Hume achieve some remarkable results in some of these complications. I want to speak on the etiology for a minute, and to make a plea for early prophylaxis. I believe the ultimate aim is to decrease the death rate, and I think that is why we shouldn't leave this unsaid.

The way I wish to make the plea for the prophylaxis is, first, when a bad cold comes on to use a vasomotor constrictor to the nares to promote drainage so that some of the discharge will go

down in the child or adult and be swallowed instead of going into the eustachian tube and causing an otitis media. But if this should supervene, do a wide open tympanotomy at once.

Again I want to urge closer co-operation between the pediatrician, the internist and the ear, nose and throat man. I think we ear, nose and throat men are not doing our duty. I hear a few of the pediatricians kick because they can't get an ear man out to see their cases. When we do and they have a red drum and high fever frequently we don't open it. They have some right to make that kick. I want to take a plea that the general practitioner and the pediatrician (I know most of the pediatricians are doing it now) have their otoscopes and observe the ear drum every day; e. g., be on the lookout for otitis media.

When they find a bad cold, influenza, or any other fever complication which they can't explain, but think it is due to pyelitis, the ear should be examined in any unusual case where they can't explain the fever. Examine it daily, if necessary, and open the ear drum at once when indicated. We will have fewer mastoids and fewer abscesses to do.

Dr. M. P. Boebinger (New Orleans): I want to compliment Dr. Hume on his excellent paper, and also compliment the men who have so ably given him their support. His paper has brought out a nice lively discussion, a friendly one.

I want to recite a few instances of complications that I have met with, and one that was brought on, I believe, by Dr. Joachim.

Very recently it has been my very unfortunate experience to have a double otitis media brought in from out of the city. We did an early tympanotomy. I had about given up the idea of the one incision through the drum membrane. Some years ago I read a very good article on multiple incisions, and since having that article it is now my practice to make multiple incisions. I am not saying where the drum is bulging make your one big free incision, but make several.

By the way, gentlemen, let me caution you not to overlook the opposite drum, because it may look very well at the time you do a tympanotomy on the one side, and several days afterwards you are forced to do a tympanotomy on the other side. Never overlook the fact that a patient has two drums.

In this case we did an early double tympanotomy. This patient was seen by a very able and very competent friend of mine, a pediatrician. After several days this child developed a pneumonia. The history was negative as to some nasopharyngeal disease, such as adenoiditis or tonsillitis, as far as I knew or could get. The child subsequently died. This is one of the complications that was not brought out.

I want to recall an experience in my own family in which I lost a very dear cousin. That was before I had taken up medicine, but today I can very readily and easily recall some of the symptoms. There was no history of a middle ear infection at that time. Dr. Matas saw the case, which subsequently proved to be a temporosphenoidal abscess. At the time, my aunt was opposed to having the brain taken from the body, but through my insistence we removed the top of the skull and got the brain. It was opened and is now in the museum at Tulane. That case proved to be an abscess of the brain.

Another case that I had some time back and lost was where I did a mastoid following middle ear infection of an old, chronic type where the pus had worked its way up beneath the muscles of the scalp. We had an awful time with that case. There was pus galore. I can't recall the organism at present, but I know I was forced to call in help, and we drained and drained, and continued to drain. We used tubing, and everywhere that we found a pus pocket we would drain some more.

There is so much to be said on the subject, gentlemen, but there are probably some others who wish to speak. My time is limited, but I want to make this plea, as some other gentleman has just said before me: You can never open a drum too soon, but rather too late.

Dr. John R. Hume, New Orleans (closing): The paper has brought out exactly the line of discussion that I had hoped it would. A subject such as this encompasses such a vast field you can barely give an outline, but the gentlemen, each and all, have added a great deal to the differential diagnosis, as well as a fuller idea in the way of treatment.

I appreciate Dr. Anderson's care in preparing his discussion, Dr. Dupuy, Dr. Joachim, and all the others. I was sorry some pediatrician didn't give his experience with the cases of middle ear infections attended with cholera infantum.

I think there is nothing at all that I can add further to the very excellent discussion, and I thank you all.

SERIAL PYELOURETEROGRAPHY.*

ITS VALUE IN MEDICINE.

ABRAHAM MATTES, M. D.,

NEW ORLEANS.

The present day status in the diagnosis of urological conditions is dependent on the use of the roentgen-ray machine and on the perfection of cystoscope, catheter and contrast media employed in urography. Urinalysis, chemical, microspocic, and cultural is essential where infection plays a role, and necessary as a routine measure preliminary to instrumentation.

For a detailed study of the upper urinary tract one must visualize both pelvis and ureter. This visualization is best accomplished by resorting to some standard method of injecting the urinary tract that will give results in the maximum of cases. Serial pyeloureterography and pyeloscopy are the only two methods that can give the information desired in every instance. Pyeloscopy, or fluoroscopic visualization is beyond the scope of most clinics and medical centers, requiring expert handling of patient and machine, and the use of costly apparatus. Pyeloureterography by the method to be shown is available wherever there is a roentgen-ray machine.

Most urologists are satisfied with their technic of injecting the pelvis and ureter, and with the particular solution, percentage, and quantity used. The failure to take more than one or two plates, and then only for the diagnosis of tumor, stone, hydronephrosis, pyonephrosis, ptosis, malformations, and stricture of the ureter, has led many of us to return a negative diagnosis in disturbances of the functional ability of pelvis and ureter. Disturbances in the ability of pelvis and ureter to properly empty the urine secreted by the kidney form not a small percentage of the cases referred to the urologist for diagnosis and treatment. These cases have been through the hands of surgeon, internist, roentgenologist, orthopedist and psychiatrist with no relief from symptoms and no diagnosis at hand. Gall bladders and appendices have

*Read before the Orleans Parish Medical Society, April 22, 1929.

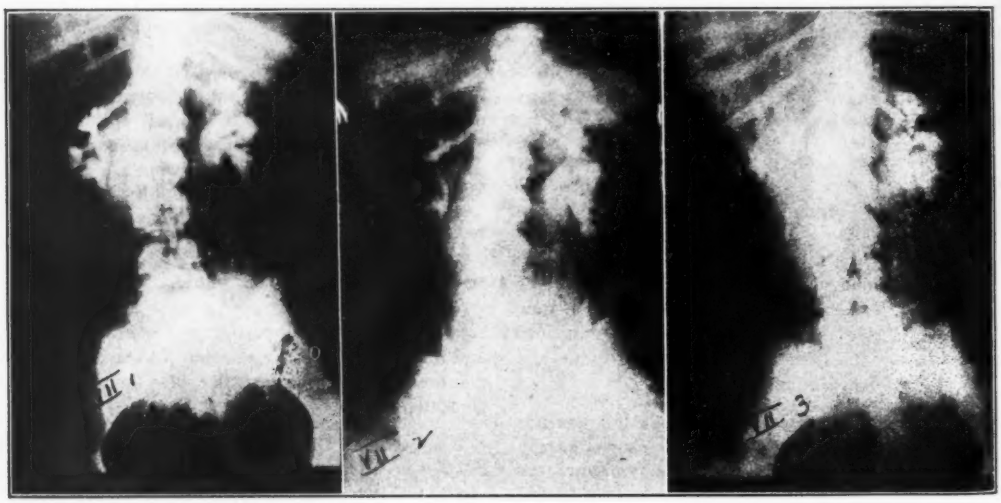


Plate VII.—R. W., white female, aged 19 years, admitted to hospital with diagnosis of subacute pelvic inflammatory disease and pyelitis; onset, fever 2 days ago; pains in lower abdomen; cystoscopy: 2c. c. stasis on right side, 13 c c. on left side.

Pyelograms show bilateral ureteral stricture. On the right 3 cm. from bladder, and on the left at the uretero pelvic area and mid ureteral area

There is a right hydropelvis and moderate hydro-nephrosis on the left side with 5-miute stasis.

I—Pyelogram. II—Pyelo-ureterogram. III—5-minute stasis.

Left pelvis (hydronephrosis). This case improved with ureteral dilation.

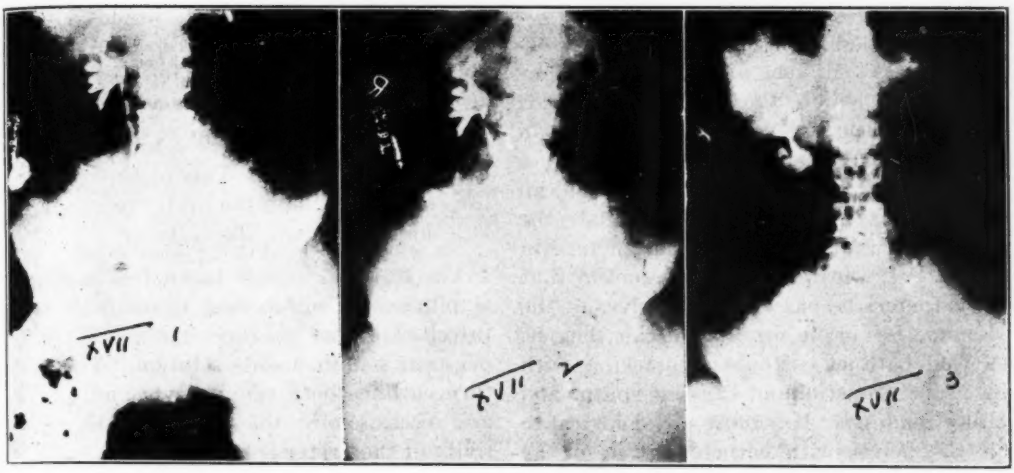


Plate XVII—C. G. C. F., aged 40 years; pains both lumbar areas 6 months; chill and fever. 1—Dilated right pelvis and clubbing caleces, (old pyelitis). 2—Ureterogram. Stricture near right ureteropelvic area. 3—5-minute right pelvic stasis.

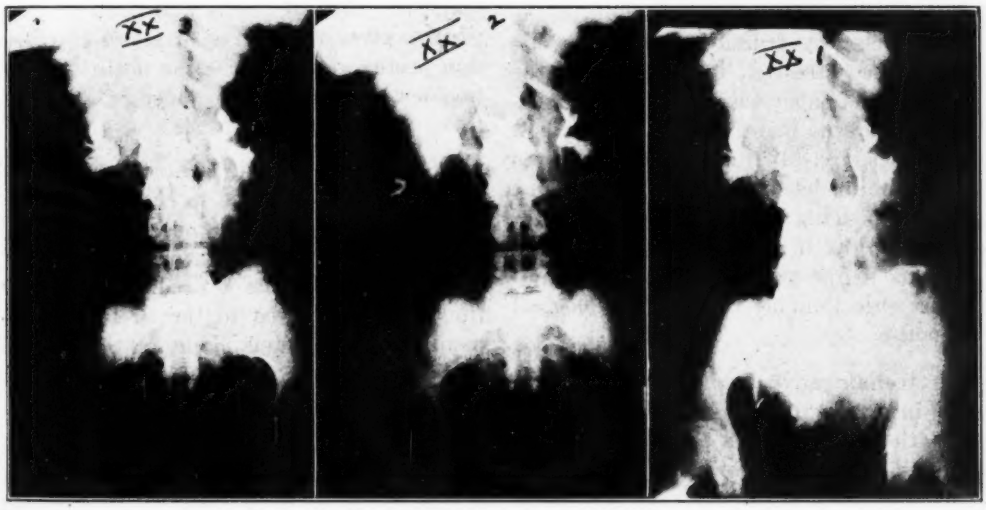


Plate XX—E. D., white female aged 49; pains in back and right side radiating to bladder and leg; onset 3 to 4 years ago; attacks worse lately. (This plate is numbered right to left.) 1—Pyelo ureterogram shows dilated right pelvis. 2—Ureterogram negative. 3—5-miute picture. Bilateral pelvic stasis and left ureteral stasis (spastic).

been sacrificed and in women every gynecological procedure has been performed, and the patient still complains. Symptoms are referable to the side, abdomen, posterior lumbar areas across the spine, and in the tubo-ovarian region. Pain may be localized to these areas or radiate to bladder, down the back and side to the thigh, or up to the chest, depending on the reflex arc. The intimate association of renal pelvis with the semilunar and aortic plexuses of sympathetic nerves accounts for the variety of symptoms noted and their similarity to organic diseases of the various abdominal organs. In these cases of upper urinary stasis the urine may be negative but for the presence of a few red blood cells, which is the rule.

The writer has stressed the value of his flat sac method of pelvic instillation in several articles. His use of stronger solutions of sodium iodide than recommended is essential to the technic employed. One can readily appreciate the value of using a small amount of sodium iodide solution, an amount that will not distend or dilate the pelvis, and that will give a true picture in almost every instance. It is essential that the catheters be passed to the pelves of the kidneys, for in no other way can they be as well outlined without interfering with its proper functioning, causing spasm and faulty readings. It is more physiological to fill the pelvis with catheter in it, or as high as it will go, than to cause the fluid to run up the ureter by gravity, syringe or pressure gauge method.

Goldstein, in 1921, made a study of the normal ureter by fractional uretero-pyelography and stressed the value of the method. This paper was purely experimental, and made no mention of its value as a routine measure. In 1925 Goldstein writes of its value in determining ureteral stasis. After introducing his catheter and withdrawing it low in the ureter, he distends the pelvis to the point of symptoms, both features objectionable from a physiological standpoint.

The technic advocated by me and reported in 1926 before the American Medical Association, and in 1928 before the Southern Medical Association has not been altered. It has proven its value on many occasions, in contrast to any of the methods is use to day.

A number four to six ureteral catheter is passed to each pelvis. Usually a No. 4 to 5 passes easily. Each side is aspirated and the amount of urine withdrawn noted. As a rule it is less than 2 to 3 c.c. Urines are collected and any tests necessary performed. With catheters in situ, the first roentgen-ray picture is made. This outlines the course of the ureter and its relation to kidney and other structures, as well as any abnormality that would cast a shadow. The second plate follows the injection of three to four c.c. of 25 to 40 per cent sodium iodide solution on each side.

The catheters are blocked to prevent the escape of media used. This picture outlines the renal pelvis, and the ureter, when there is leakage alongside the catheter.

The third picture is taken following the simultaneous withdrawal of catheter and injection of one to three c.c. of 25 to 40 per cent sodium iodide solution. This picture outlines both renal pelvis and ureter, and occasionally the bladder. Hyperactivity of the ureter is here by the absence of a shadow along its course.

A fourth picture is taken in the same position five minutes later, the normal emptying time of pelvis and ureter. This picture gives the degree of stasis in pelvis and ureter and at times the outline of the bladder. Occasionally more plates are taken, as in hydronephrosis.

Disturbances at the uretreo-pelvic area when present are noted in several films, of great value from a diagnostic standpoint. A stricture of the ureter will always show a retention of solution used. This retention may be limited to the ureter, a segment of it, the pelvis alone, or the caliceal system in part or as a whole, or the entire tract may be involved.

Over 500 cases were subjected to routine serial bilateral pyeloureterography and in an analysis of 140 of these cases reported elsewhere, stasis was noted in 62 cases, or 44 per cent.

In this series 17 cases showed right pelvic stasis; six left pelvic stasis; 17 bilateral pelvic stasis; 1 left ureteral stasis; 2 bilateral ureteral stasis; 9 bilateral ureteral stasis; 8 right pelvic and ureteral stasis; 2 left pelvic and urteral stasis; and one right pelvic, right ureteral, and left pelvic stasis. In a fair number of the remaining 56 per cent ptosis, tumor, stone, stricture and tuberculosis were noted.

Stricture of the ureter in some cases was associated with good drainage. When drainage is normal at time of examination, the urinary tract should not be ruled out, especially when there is a subsidence of symptoms. Were an examination made when symptoms are present positive findings would be noted. Intermittent stasis does exist and should be remembered in order to properly interpret the status of a case. Difficulty in passing a catheter of small caliber considerably aids in a diagnosis, in the absence of other findings.

Ureteral catheterization and dilation using preferably number 5 to 7 ureteral catheter or bougie will bring about a cessation of symptoms and restore the patient to his former status. The simplicity of treatment is a marvel to the patient and the comfort afforded places this class in the grateful group. Serial pyeloureterography offers these cases of stasis a positive method of diagnosis and assures an intelligent method of treatment.

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DISCUSSION.

Dr. W. A. Reed (New Orleans): I wish to congratulate Dr. Mattes on his excellent work and state that I believe it is interesting not to the urologist alone, but to the surgeon, the gastroenterologist and the internist as well. There is no question about the superiority of pyeloureterography over the methods previously employed. It is the only real means of demonstrating obstructing lesions in the ureter. About five years ago we were all interested in wax-tipped catheters, bougies and other devices to determine strictures of the ureter, but the results obtained were often discouraging. These methods have been almost entirely replaced by the pyelogram and the pyeloureterogram. Dr. Mattes stated that the pyelogram does not necessarily have to show a dilatation of the kidney pelvis to indicate that there is urinary stasis in the pelvis. Many of the ureteral stricture cases show renal pelves that are perfectly normal in size, shape, contour, etc., and yet these are present definite strictures of the ureter. One may very easily insert a No. 5 catheter in the ureter as carefully as you can, and discover no evidence of obstruction, and yet a definite stricture be present, which later will show up plainly in the pyeloureterogram. I, personally, do not like to use the double pyeloureterograms. There is a great deal of argument pro and con on that subject, and any number of men have recently written on the use of bilateral pyeloureterograms and the absence of any danger in its employment. I base my belief on the appearance of the bladder following the injection of solutions of sodium iodide in making cystograms. Very often in cystoscopic work we see a bladder a day or two after the injection of sodium iodide or sodium bromide solutions which shows definite and intense inflammatory changes. So I feel much better if I do a single pyelogram at a time because I believe I am inflaming the kidney pelvis to a certain extent with the solution used. This may be disproven later, but at the present time I am advocating unilateral pyelograms. We handle a large number of stricture cases in the Clinic at Touro Infirmary. Drs. Wolf, Campbell and Adam have done a great deal of work in pyelography and they have used not only the old methods, but have worked on the lines Dr. Mattes has shown us tonight. In making serial pyelograms we have added one more position, the erect position. We make one picture lying down with the catheter in the ureter; one in the recumbent position in which the kidney pelvis has been injected; the third picture erect with the pelvis injected; the fourth picture is also taken in the erect position with the catheter withdrawn, believing that this will favor drainage a little more than the recumbent position and that, if there is stasis present in the renal pelvis, the erect position will promote drainage to the fullest possible extent. Many of these cases have been referred to the clinic by the gastroenterologist. Many are patients in whom gastric symptoms have persisted for eight to ten years with gas accumulations, periods of diarrhea and periods of constipation. In some the appendix was removed, in others the gall-bladder removed. On careful study we found these symptoms frequently due to ureteral strictures and that they responded rapidly to urological treatment.

Dr. J. Holmes Smith (New Orleans): I believe that Dr. Mattes' paper should be taken to heart, not only by the urologist, but also by the

have been interested in the number of patients who return after appendectomy and continue to have their trouble.

Recently I decided, or thought, I would like to investigate from fifteen to twenty-five cases coming in with right-sided pain in whom the diagnosis of appendicitis was formerly justified. I have tried to have several things done: stool examinations for parasites; a radiogram for calculi and also to show arthritic changes, a gastro-intestinal series to show what was in the appendix; and lastly a pyelogram. Dr. Mattes has run a dozen cases for me and the result is almost startling; almost all these patients, in addition to stasis, etc., have shown some disturbance in the ureter or kidney. One patient gave a history of right-sided pain, but the pathology was located in the left side. Of course we must not forget that there are many conditions capable of producing the same symptoms, also that there are various ways of arriving at a diagnosis, but I certainly, for the present, believe in the need of pyelograms as an aid in the diagnosis of right-sided pain.

Dr. A. Mattes (closing): I certainly appreciate the comments of Dr. Reed with regard to the taking of pictures in the erect position, in addition to the plates already shown. The object is to get the plates down to the least number required, and also the simplest method that anyone can use anywhere. Sitting up of the patient, unless you are dealing with a modern table, is a problem. To allow the patient to sit up or stand against the wall will certainly increase the disturbance already present, cause reactions, and is not conducive to greater comfort. For that reason it is necessary to eliminate as much handling of the patient as is possible.

What you have seen tonight is something new to you, *i. e.;* the evaluation of the presence of functional disturbances of pelvis of kidney and the ureter. Most of the work coming from the greater clinics deals with the major disturbances of the kidneys, pelves and ureters, and not disorders of function. This is a phase that has been studied by comparatively few men and a phase of the work that will be studied by more as time goes along. Cardiospasm and functional disturbances of the heart and functional disorders of the stomach are all familiar subjects to you and volumes have been written on them. I am merely showing you tonight a method of studying functional disturbance of the urinary tract along more physiological lines than heretofore.

HEALTH AS RELATED TO PUBLIC SCHOOLS.*

JOSEPH O'HARA, M. D.,

NEW ORLEANS.

In trying to discuss a matter so important as this is, I think it needs careful consideration, and I am exceedingly sorry to hear that Superintendents Harris and Richardson are unable to be here, because it was through them that I intended to try to make an inroad for public support of the action of the Louisiana State Board of Health to the proper education of those children at the plastic age where they would be able to take on that part of their resistive power, in medical studies known as behavior and habit response. This, the State Board of Health intends to try, and will succeed I know because we have already sent out and made a splendid experiment through the assistance of the United States Public Health Service under the watchful eye of Dr. Akin.

Dr. Unsworth, the representative of the State Board of Health, has gone into the several units in the northern and eastern parts of the state of Louisiana. He has gotten into the graces and thoughts of the teacher in trying to get to the young student who is reported by the teacher to be a little upset in his habit and behavior responses. We try, through this method of building up this system in Louisiana, whereby we shall be able to get into the education of a child at an early age, to teach him the benefit not only of health from a financial and physical, but also from mental standpoint. We intend to try to educate the child into a system of living and behavior so that he can go into his own home and teach his parents that one of the most important branches of educational life and development is mental hygiene. We expect to attract a very broad field with something entirely new in the South. It is something of a gigantic success in the North and West.

*Read before the Louisiana State Medical Society, New Orleans, April 9-11, 1929.

The Juvenile Institute in Chicago is making a splendid monument of success in its development of juvenile delinquency through this method. I feel, with proper co-operation from the health societies, from the police jurors, from the school boards and school functions, and with the co-operation of the teachers and their assistants, something can be accomplished along this line. Of course, you understand the state of Louisiana is not as well off as many big cities in the country. For instance, the state of Louisiana gets $300,000 a year to maintain its health project, while the city of Chicago, with 3,000,000 population, gets $1,975,000, or 33 per cent per head. If we had that amount of money to do something along all health lines, I feel that the educational standards of the state of Louisiana would be comparable to any other in the country.

I am just trying to take advantage of this particular moment to let you know that when Dr. Unsworth, the representative of your Louisiana State Board of Health, comes into your parish, I beg and ask of you to give him the co-operation that he intends to give. He is not going to be antagonistic to the police juror, to the school board, or to the Board of Health. He intends to do what the head of the organization of the Louisiana State Board of Health is trying to demonstrate to you it intends to do. Anybody who tries to control health matters through force, through courts, through lawyers, is making a very serious mistake.

I have told you physicians here today that the status of the Louisiana Board of Health was absolutely along lines of education. I have told them repeatedly that they know more about their parishes in ten minutes than I know in a year, and I want them to feel that the Louisiana State Board of Health is subservient to their action in their particular parishes, and we are willing to do what they ask us to do for co-operation and for education along health lines.

I am therefore going to ask you gentlemen out in your parishes, when we come through there, to give us your assistance, to give us your ideas, to give us your dictation as to what manner and means we should use in trying to get into the child-life of the state of Louisiana for proper education along financial, social, mental, physical and economic lines.

DISCUCSSION.

Dr. J. R. Carter (Harrisonburg, La.): It is the disappointment of my life this morning that the Superintendent of Instruction of Webster Parish, and the State Superintendent of Instruction are not here. I had hoped to hear those gentlemen tell the lay viewpoint of the healthwork. It is a large subject; it is a tremendous subject. It is possibly the keynote to all of our public health and medical work.

It is from the schools that we learn, to the largest degree, what is going on in human development. It is through the schools, in the largest degree, that we broadcast the latest and newest and best information to those thousands upon thousands of parents, and those other grown-ups who have never been in school. I was in hopes that we would be able to make a very pleasant contact this morning with the lay directors of education and health work in the state.

As director of the Catahoula Parish health unit, I must state that I came into this state and into this parish with a view of coming right down close to the problems that have baffled me during my life. I have been a physician, I have been a surgeon, and I have been an obstetrician, and I know something of what it means. In 1898, at eighteen years of age, I entered medical college little knowing what was going to confront me. All the way through college I worshipped the professors; and we had lovely professors, wonderful men, men of high ideals, men who hoped to carry a message to us, and men who hoped to see their students go out and do something that would be a credit to the profession.

After I got out, a young man twenty-one years of age, I went to northern Michigan. I was surgeon for the shingle mills, lumber mills, little farms and railroads, all alone out in that wild district. I saw how little the people knew about what a physician or a surgeon or a health officer meant. They rather figured he was some kind of a peculiar, miraculous, mysterious individual, and they only used him when they had to.

It takes time and experience to bring before us these wonderful things, and I readily see that

many, many physicians today do not quite understand the place of the health director of the health unit in the parishes as we find them today. If you will glance for one moment with me over the setting of the health unit director, or the health officer and director in the parish, you will see that there is something vastly deeper than what is written on the surface of newspapers. You will notice that, beginning with the United States Public Health Service in Washington, D. C., that tremendous, grand organization reaching over to that great organization, the Rockefeller Foundation, coming on over to the State Board of Health, what a tremendous trio it is, surveying the dilapidation and disaster of the 1927 flood.

They interview the police juries, they interview the school boards, and they tell people what forces are lying at their command. As a result of their combination, this doctor is picked to go to that parish, to represent those three great organizations with all their experience and all their knowledge and carry that message to the people so they may understand it and, as a result of understanding use it.

The sum total of it is this: that the foundation laid is fine. It comes up to the responsibility of the man who is directly in contact with those people in that parish to be able to know and understand the setting, and be able to utilize every asset in that parish that is giong to bring about a certain, slow but certain, change in the viewpoint of the people, and the resulting activity among those people that is going to eliminate what the doctor was talking about in the beginning, insanity, feeble-mindedness, defective minds, and all that sort of thing. It is going to bring a change of viewpoint with regard to the disposal of human excreta. It is going to bring around the viewpoint that will handle readily the purification of water, the screening of houses and the elimination of the bites of mosquitoes with all their disease and molestation. It is going to bring about drainage surounding these homes, that will not bring into the home the filth of the ground from animals, and man likewise, and insects, and all that goes with it. It is going to bring about that understanding of living whereby men will reach out for their families and get a balanced diet. They are going to have meat and eggs, and all that goes into the protein class, and they are going to have all the vegetables, fruits, cereals, and through an understanding will get a balanced idea of what is necessary to maintain the human body in growth and health.

Oh, this is a big thing! We go into the schools. Why? Because the schools offer us an aggregation.

Doctors, just imagine a parish of 437 square miles that is almost impossible of approach, that is largely swamp roads. It is only possible to get to most of the parishes three months out of the year. Other parts of the parish we get to readily. However, we have 437 square miles.

Our unit is comosed of a director, a nurse, and a secretary. Just imagine how far a director, a nurse and a secreatry are going to get with 11,600 people in an area of 437 square miles in the course of one year. We have to survey the whole situation and then fit ourselves into the groove whereby we can drive ahead, pull in and take to our assistants anything and everything that comes along.

So we go into the schools because there we have the aggregated children of the whole parish. By getting to those children we start in the evolve, to get the information necessary to give us the cue as to how to approach these things, how to get into them ,and how to get results.

After all is said and done, men, if we do not get results our work is a failure. As I tell the children when I go into a school for the first time, I go there to survey and look them over. I say, "Boys and girls, I mean business. I am the director of the Catahoula Parish Health Unit. I came here to change the health conditions in your community, and with your assistance we are going to do it."

The little fellows are just as important as are you big men. I put more confidence in the little fellows today than I do in you big men. I don't care how hostile the whole community may be, if I get the children on my side the community is going to like me soon. Get that? The children are going to move this nation; they are giong to move it in health; they are going to move it in spirituality; they are going to move it in wealth, and when the children stop doing it, it is all gone. The older fall by the way. The children are the hope of the nation. The children of my own home and the children of my neighbors and the children of my parish keep me living. If it weren't for them I couldn't get an inspiration to move one way or the other in this wonderful scientific work. The children furnish the motive. There is a reason for everything. We grow for our children.

The health units today of the neighboring parishes are reaching out in a similar way. I have had the most pleasant contacts with those men. I have had the most pleasant contacts with the physicians co-operating with those men, and I am here to tell you that it is astounding to me. I have been in Catahoula Parish but a year and a half, but I can see the most phenomenal changes—most phenomenal changes. I see Mr. Bote's work scat-

tered all over this state. I have been over most of the state and I see it. It is growing, and it is going to take care of our sanitary disposal of human excreta.

There is one principle that the Catahoula Health Unit stands firmly on, and that is the dividing line between the responsibility of the health unit and the responsibility of the physician. That is an important line. The health unit director is the link in the chain between the masses and the physician. In order to make the best possible use of the health unit, the physician must strive to learn what the work and objective of the health unit director is. Then there is going to be a team that will go over this United States of America greater than anything that has ever happened, and I don't mean maybe. I am sold on my work, and I don't see any chance to become unsold.

I am delighted to have this opportunity to speak to you this morning, and I hope we will have many more opportunities to talk these matters over again.

THE CORRECTION OF PHYSICAL DEFECTS OF PRE-SCHOOL AND SCHOOL CHILDREN IN A RURAL SCHOOL.*

J. H. JANNEY, M. D.,

INDIANOLA, MISS.

The public health worker is attempting to prevent unnecessary sickness and death, to preserve health and to promote physical fitness. He is chiefly concerned with those of his clientele who fall in the pre-school and school groups. His reasons for emphasizing the importance of work among these groups are sound and based on the desire to reduce school absences from preventable sickness, to keep the child physically fit to absorb the knowledge to which he is exposed, and to give him a sound body for the efficient use of the education he has gained. Work of this sort is simply justified by the single consideration of the cost of raising and educating a child to the age of self support.

In a general way work among children falls into three classes, first, protection against communicable diseases; second, discovery and correction of physical defects; and third, instruction in personal hygiene and simple sanitation.

I shall attempt to discuss physical defects only, with particular emphasis on those of the nose and throat.

Abnormalities of eyes, nose, throat, teeth and nutrition, while perhaps not of greatest importance per se, are extremely dangerous in that they may, if let go on, influence disastrously the general physical welfare of the individual. They result in the lowering of resistance to infections such as tuberculosis and rheumatism, and they often predispose to organic conditions in later life such as heart, kidney and digestive diseases and even nervous and mental disorders.

These predisposing abnormalities put in their appearance chiefly during the preschool and school periods of the individual's life. The earlier the correction, the easier it is accomplished and the greater the chance of avoiding irreparable damage.

Before a defect can be corrected, it must be discovered. This discovery may be made by the parent, the family physician, the teacher or through medical inspections conducted by the health department. The effort expended in discovering the defect and the discovery itself are absolutely useless if nothing further is done. Health Departments, in their mad desire to show startling statistics on the number of children inspected, at times lose sight of the object of medical inspections, which, after all, is the correction of defects. It is satisfying to point with pride to the fact that 90 per cent of your school children have been examined and perhaps jutly so, because, after all, it means a great expenditure of energy and time. Should, however, we deign to become slightly introspective or even doubtful, we will realize that our task is only one-third accomplished and then perhaps our satisfaction will be short lived. Is it not more practical to base our pride entirely on the number of corrections we obtain rather than on any of the other

*Read before the Section on Hygiene and Public Health, at the Sixty-second Annual Session of the Mississippi State Medical Association, Gulfport, May 15, 1929.

phases of this important activity? Do not misunderstand me and allow me to create the impression that the discovery of defects is unimportant; on the contrary, it is an essential and extremely necessary part of the program, but insufficient for the attainment of our objective. It must be followed by salesmanship employing every art of the profession. In spite of its unquestionable economic value, the selling of a correction to a parent is not always the easiest task in the world. We have a system and the machinery for convincing parents as to the importance of corrections; but with our notices, letters and home visits, we are indeed fortunate if we get more than 10 per cent of the defects corrected.

The Health Department, when it discovers defects and convinces the parents that they should be corrected, finds its progress toward the accomplishment of its objectives in all this work suddenly blocked unless it has set up the machinery with which to make the correction. Many of us find this "setting up" difficult on account of local facilities and conditions. Few Southern counties are so fortunate as to have a hospital within their boundaries. Many do not even have an eye, ear, nose and throat man equipped to take care for more than a fraction of the work which the average school medical inspection will send his way. The transportation of patients to hospitals, clinics or specialists in other centers is costly and does not get enough corrections done to satisfactorily solve the problem. Some counties import specialists who spend one or two days in the county and perhaps do 20 to 50 tonsillectomies. This procedure is again costly, likely to be fraught with danger, and is scarcely ever a drop in the bucket.

I am indeed sorry that I cannot present to you some marvelous new plan for settling these difficulties. I can only say that each county health officer must work out his own salvation in accordance with his local conditions. In addition, I must take this opportunity of urging upon you the necessity of a hospital in practically every county. The establishment of such hospitals is without doubt of great interest to the public health worker and certainly a step toward meeting the problem of rural medical care which is menacing our future welfare.

Unfortunately, setting up the machinery for the actual correction does not entirely resolve the situation. The next problem that confronts us is that of cost.

Some children will be able to pay the regular fee, more will be able to pay something, and the rest, a goodly number, must be classed as indigent. I believe that poverty is no more the clinician's responsibility than it is the butcher's, the baker's, or the candlestick maker's. Surely he does enough charity without our expecting him to make corrections in some or all of our defective school children without charge. In spite of the fact that this is a community responsibility and should be handled as such, we usually experience little difficulty in finding someone who will do our indigent work without renumeration. Again it is up to each of us to make the best of our facilities. In many localities, specialists charge a full fee or nothing and are most co-operative in their work. However, many cases require hospitalization which must be paid for regardless of the patient's economic status. Such fees are at times paid from county funds or by local organizations, and some health departments administer funds donated locally for this purpose.

Sound judgment and honesty are essential qualifications of a good health officer. They are incompatible with the spectacular and relatively unimportant activities in county health work. The securing of corrections is time consuming, laborious, discouraging, and not particularly spectacular. Each of us should realize that it is one of the most important of our activities.

We must devote much time and energy toward the pre-school child, and we must work out our own individual salvation as far as actual correction and cost of correction are concerned.

CASE REPORTS AND CLINICAL SUGGESTIONS

AN INTERESTING EXPERIENCE IN TONSILLECTOMY.*

J. L. SCALES, M. D.,
SHREVEPORT, LA.

I presume that by common consent of the men who specialize in nose and throat work it will be agreed that the tonsil question has been worn threadbare; that each has had all the interesting experiences that can occur in tonsillectomy and that none are likely to enthuse over the recital of any other individual's experience in this line. Notwithstanding all this assumed indifference, I venture briefly to report a case, or series of cases, from which I received a considerable degree of pleasure and satisfaction.

THE THREE MISSES F.

The subject matter of this paper has nothing to do with diagnosis, surgical technic or post operative results; it might be said to deal mainly with the matter of human interest—I feel inclined to regard it in the light of the romance of tonsillectomy, if there be any—and I trust it is not inappropriate to go on record in the proceedings of the Louisiana State Medical Society.

On May 5, 1919, I performed a tonsillectomy on three little girls, sisters and triplets, about 7 years of age. There were no complications and no unusual features other than the following:

*Read before the Louisiana State Medical Society, New Orleans, April 9-11, 1929.

It is not every day that one finds three children of one family that need a tonsillectomy at the same time; still less frequently of the same sex, three girls let us say, and still more rare indeed that triplets are discovered demanding this procedure. I will admit that it would have required rare self control to pass up one of this trio, but I carry an easy conscience in this regard, because the operation was imperative in each instance.

An interesting sidelight grows out of the fact that after the operation I could not tell "tother from which," because of their similarity in appearance. I am told that it taxes the mother's resources to do so.

They are getting to be handsome and attractive young women now and their future seems to be assured in as much as they have run the gauntlet of children's diseases, survived the efforts of the tonsil surgeon and had at least one experience like the following, which was vouched for as being authentic: When they were little babies just beginning to walk the mother, who was gathering flowers in the yard one morning, had her attention drawn to the house by some unusual sound, looked up in time to see one of the babies tumbling out of a second-story window, she ran over in time to catch the baby unharmed in her apron.

Having had some personal experience in raising twins I am prepared to believe that it requires some such maternal, intellectual and physical activity to successfully raise triplets.

DISCUSSION.

Dr. J. T. Crebbin (Shreveport): It is rather interesting, in view of his experience in this case, that the essayist should be the father of twins, and that he should have selected a twin to open his discussion. I do not wonder that he has a special feeling for triplets. His whole experience with this family, including the episode of falling out of the window, is so unusual that, if we did not know his reputation, we might question his veracity. I have had no similar experiences. The nearest I came to it was when I operated on four children of the same family.

A TONSIL EVERSOR.

OSCAR W. BETHEA, M. D.,

NEW ORLEANS.

The tonsils are now recognized as playing such an important role in the etiology of many pathological processes that an investigation of these structures has become an essential part of every routine examination.

Among the many facts that have been established are:

1. That merely depressing the tongue and looking at the tonsils gives a very imperfect idea of their actual condition.

2. That in the majority of instances if pressure is made backward and outward upon the anterior pillar of the fauces the tonsil will be forced inward and forward, the crypts opened up, secretion from the deeper pockets forced out and the whole structure made easily available for inspection or treatment.

For this purpose examiners have used such devices as a cotton mop, the edge of a laryngeal mirror or a second tongue depressor.

The instrument here illustrated has the following advantages:

It is light, cheap and easily sterilized.

It has a handle of the proper size and shape to serve the convenience of the examiner.

The shaft of the instrument is at such an angle to the handle that the hand of the operator is out of his line of vision.

The smooth polished loop that is used for making the pressure is of such character as to prevent damage to the soft structure or discomfort to the patient.

The procedure is more effective if a tongue depressor such as the Weeder is employed.

Acknowledgments are made to Mr. R. E. Amoss, of the Frank S. Betz Company, for his cheerful cooperation in this, as in other instances in the past where service was possible.

Tonsil Eversor

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Manuscripts should be addressed to the Editor, 1551 Canal St., New Orleans, La.

ICTERUS NEONATORUM.

Very frequently obstetricians draw a distinction between the child that shows frank jaundice and the one in whom this symptom is absent. Goldbloom and Gottlieb* show in some recent work that no such distinction can be drawn, and that every child has a certain amount of icterus shortly after birth. Icterus neonatorum has been recognized as an entity for a number of years. Virchow, in 1847, wrote that it was due to excessive destruction of the red blood corpuscles. Later he abandoned his view and for at least the last sixty years, the idea prevaled that the condition is due to a blocking of the small ducts of the liver. With the present day increase of knowledge of the formation of bile which was held back so many years by the erroneous experiments of Minkowski and Naunyn in 1866, it is now known that bile may be formed outside of the liver itself. In view of our increasing information of the importance of the reticulo-endothelial system in bilirubin metabolism, an investigation of the blood of the new born child is particularly pertinent. In this study of blood from the primitive circulation and from the cord, a definite explanation for the icterus of the new born baby is brought forth. In the first place, testing the blood of the umbilical cord, it was found that every child had an increased amount of bile pigment in the blood serum, and estimating the amount quantitative by the icterus index it was shown that those children with more than fifteen units showed frank jaundice. The fragility of the red cells from the cord is markedly increased, so much so that at times there were spontaneous hemolysis of cord blood. The hemolysis of the red cells was most pronounced in the younger forms of these cells.

These observations definitely indicate the hemolytic origin of the jaundice. Why the new born child should have an increased fragility of his red cells is explained on the basis of the infant in utero living continuously in a condition of oxygen want. Their living in an atmosphere lacking oxygen is comparable to man living at high altitudes. As a result of the anoxemia, polycythemia develops. The bone marrow is stimulated by the CO_2 and a great number of immature red cells are thrown into the circulation. When the necessity for the polycythemia ceases as the child is able to breathe, the excess of red cells is destroyed and this distruction manifests itself then in the presence of icterus. Summed up it may be said that

*Goldbloom, Alton and Gottlieb, Rudolph: American Journal Diseases of Children, 38:57, 1929.

icterus neonatorum is invariably present in the new born baby, and that jaundice is due to a post-natal readjustment from an environment of oxygen want to a normal atmosphere.

THE NEW PHARMACOPOEIA.

Considerable discussion was occasioned after the completion of the last Pharmacopoeia as to the advisability of deleting as many drugs as were cut out by the ninth decennial revision. In order to answer the question of the frequency with which certain drugs are used which are not now listed in the Pharmacopoeia, but not to determine the pharmacologic action of these preparations, the Chairman of the Committee on Revision announces that a questionnaire has been prepared containing a list of the large number of drugs omitted from U. S. P. VIII and IX. Physicians, who are interested in seeing that drugs which they consider of value or that certain preparations of drugs be incorporated in the Pharmacopoeia, are requested to write to E. Fullerton Cook, Chairman of the Committee on Revision, at 636 South Franklin Square, Philadelphia, Pa. The questionnaire will be sent to those physicians who would like to have additions or changes made to the Pharmacopoeia, the only proviso being that if the questionnaire is filled out that each and every omitted article, making up roughly a total of some three hundred and fifty drugs or pharmaceutical preparations, be marked either as being used "often" or "rarely" or "never" by the physician signing the slip.

This investigation of the Pharmacopoeia Committee seems eminently fair and just. Certainly the average practitioner of medicine should be given the opportunity of expressing his opinion, if he cares to, concerning the avilability of the deleted drugs as a whole or of any drug which he feels has unjustly been removed from this, the official, book of standard for drugs.

ORLEANS PARISH MEDICAL SOCIETY.

A most delightful and entertaining program was presented at the recent Annual Installation Meeting of the Orleans Parish Medical Society. A very enlightening address on "The Doctor in Court," which should have been of interest to every physician, was delivered by Mr. William A. Porteous, Jr. The Incoming President, Dr. C. Grenes Cole, also prepared an address which would have been good for any medical man to hear. The Retiring President, Dr. E. D. Fenner, spoke with his usual felicity and vigor. Following this program refreshments were served and dancing was enjoyed. A month before this meeting, one of the most interesting and able addresses delivered in recent years before the Society was given by Dr. W. C. Rappleye as fourth Chaille Memorial lecturer. This was an address which gave an immense amount of information, which was authoritative and which was well planned and carefully thought out. Here were two unusual medical events under the auspices of the Orleans Parish Medical Society with a membership of 515; here were two meetings which were attractive not only to the medical profession as a whole but to the laity as well; here were two meeting which should have been attended by the great bulk of the members of the Society, and yet at both these meetings there was a mere handful of doctors and even fewer non-professional guests. What is the explanation for this lack of interest in the meetings of the organization? Exactly the same thing is seen at the scientific meetings. A few of the old regulars attended, but very few. It might be that the scientific meetings may not be of general interest, yet at the two especial meetings mentioned above everything that could be done to attract the members was attended to: good speakers were on hand, ample and excellent refreshments were provided, as well as other side attractions,

and yet the attendance was disgracefully small. Lack of interest in the organization does not bode well for the future. Certainly something should be done to stimulate attendance, to arouse enthusiasm, and to urge the members to come to the meetings, meetings which in the past year have been splendid scientific events, meetings which have been of interest from the social and sociological standpoint, and meetings of which there could be no criticism.

One of the primary purposes of the new Board of Directors, it would seem, would be to devise ways and means whereby greater interest might be aroused in the doings of organized medicine in this the largest Parish Society of the State.

HOSPITAL STAFF TRANSACTIONS

VICKSBURG SANITARIUM AND CRAWFORD STREET HOSPITAL.

Staff Meeting, January 10, 1930.

Abstract: Nephrolithiasis with Suppurative Pyelitis.—Dr. A. Street.

Patient—White, female, aged 36 years, married, has two children, youngest eight years old. Admitted to hospital October 23, 1929.

Present Illness—Onset five days ago; abdominal pain in right lower quadrant, with nausea and vomiting. Pain has persisted, requiring morphin each day. Bladder frequency and tenesmus. Chills and irregular fever. Bowels open by cathartics.

Past History and Family History—Not remarkable.

Procedure—Cystoscopy on October 24, 1929. Catheter easily passed into right kidney pelvis and 20 cc. of turbid urine aspirated. From catheter passed into left side there was normal flow of clear urine. Phthalein test showed 5 per cent on right and 35 per cent on left in 30 minutes; dye appeared in eight minutes on right and in five minutes on left. Roentgenogram showed a calculus in the right kidney, forming a cast of the pelvis.

Blood urea nitrogen, 17.5 mg. per 100 cc.; leukocytes, 11,500; neutrophils, 79 per cent. Urine from left side was normal.

Catheter was left in right pelvis for three days, irrigating with three cc. of normal salt solution every four hours. Thereafter catheterization of right ureter at intervals until December 5, when patient was readmitted for operation.

On readmission, patient was feeling well, was free of fever and of all symptoms. Blood urea nitrogen was 15.5 mg. per 100 cc. Dye test showed 20 per cent excreted by right side in 30 minutes; urine from right ureter was only slightly cloudy, but it still showed pus. Roentgenogram showed the calculus as before.

On December 9, through a right lumbar incision, the kidney was delivered, the posterior surface of the pelvis incised, close to and parallel to the kidney. The stone was removed in two fragments. Fluoroscopy of the delivered kidney then showed it free of shadows. The pelvis was closed and fat sewed over the wound in the pelvis. After the kidney was replaced, nephropexy was done and wound closed to exit of one cigarette drain leading to the perirenal space.

Patient was discharged on December 27, with instructions to return in three weeks for lavage of the kidney pelvis. This will be repeated until the urine is free of pus.

Abstract: Vague Abdominal Symptoms Due to Uncinaria Americana.—Dr. J. A. K. Birchett, Jr.

Patient—White, female, aged 16 years, schoolgirl.

Chief Complaint—Pain in upper right side of abdomen for past four or five months; no appetite; no energy.

Past History—For past year has been having vague pains, mostly in abdomen and in small of back. Was told pains were due to absorption from tonsils which she had removed without improvement. Pains became so cramp-like and uncomfortable that she consulted another physician, who diagnosed the condition as chronic appendicitis and removed the appendix. No improvement in abdominal symptoms followed.

Began menstruating at 14 years of age; menstruation lasts three days; no dysmenorrhea. Bowels constipated. Anorexia. No serious ill-

nesses. Bronchitis last winter. Malaria two years ago.

Family History—Not remarkable. No tuberculosis; no cancer.

Physical Examination—Well nourished and developed. Oral hygiene good; tongue clean; teeth perfect. Tonsils partially out; no inflammatory. changes. No enlargement of thyroid. Heart and lungs negative. Tenderness was elicited over gall-bladder and duodenal regions. Liver not enlarged; spleen negative. There was well healed recent mid-line abdominal scar of previous operation. Some vague pain elicited over both costo-vertebral angles. Pelvic examination showed small uterus, retroverted; tubes and ovaries negative. Reflexes normal. Skin had yellowish tint, appearance of anemia.

Subsequent—No diagnosis was made but the evidence of vague abdominal pain, cramping in region of gall-bladder, anemia, and pronounced lassitude suggested examination of stool for parasites, and especially for hookworm as it has been brought out in the literature that the presence of these parasites will bring about an anti-peristaltic wave in the duodenum, which gives cramps and discomfort in that region. The feces showed an abundance of uncinaria Americana ova.

The patient was given carbon tetrachlorid at two different times and is improving. The ova have disappeared from the stools. An interesting point in this case was that at the first few blood examinations no eosinophils were found. At the last examination of the blood, after the second dose of carbon tetrachlorid and when no ova could be demonstrated in the stools, the eosinophils were 18 per cent.

TRANSACTIONS OF THE CHARITY HOSPITAL SURGICAL STAFF.

The chairman, Dr. A. C. King, has inaugurated a system of presenting one or two speakers for short talks preceding each regular meeting. In accordance with this policy Dr. Urban Maes read a short paper on "The Preoperative Preparation of Patients." A number of important and interesting points were stressed and it was thought best to publish this paper in its entirety.

Dr. Peter Graffagnino next gave a very interesting talk on intravenous amytal anesthesia. He reviewed the literature and found that the idea was not altogether new, nor is this the first time this particular drug had been used intravenously. It was shown that various drugs, including ether, at various times were tried and each given up in turn.

The speaker explained that the drug, amytal, had been used by him or under his supervision, about 33 times. He stated that the dose for man is from 10 to 25 grains dissolved in triple distilled water to make a 10 per cent solution, and he reviewed the technic of preparation stating that the solution should be perfectly clear. He added that the drug must be given very slowly, about 1 cc. per minute, the patient falling into a deep natural sleep within three to five minutes. Depending on he age, size, and susceptibility of the patient, and the amount of the drug used sleep is produced from one to four hours. However, many patiets sleep for twenty-four hours or even three days. It was also said that the anesthetic period is not more than three hours at most.

In his concluding remarks Dr. Graffagnino was very cautious. He explained that while this was the ideal way of anesthesia still a number of facts must be overcome. The obstetrical use of this drug has one particular disadvantage in that the patients are as a rule very restless during the progress of labor. This makes close watching of the patient very important. This restlessness is also noted in some surgical cases, and particularly after they are returned to their beds, frequently necessitating the use of arm and leg straps. The danger in this is readily appreciated. No minimal lethal dose is as yet known for man and the ever present possibility of idiosyncrasy to the drug cannot be totally ignored. As yet no antidotes are known, so that the matter of idiosyncrasy is of great importance. Once put into circulation, how are we to increase its elimination or inactivate it should trouble arise?

The drug given in this manner has been found very useful in strychnine poisoning, tetanus, and eclamptic convulsions. From this point of view it is certainly an important addition to our armamentarium. However, before using it as a routine anesthetic many problems must yet be overcome.

A discussion of the deaths occurring in the surgical services next followed. The first case presented was that of a white infant 8 months of age who died following a bilateral mastoidectomy. Dr. Dupuy, Sr., discussed this case, explaining that at this age as a rule only the antrum is present.

The next case was that of a white female, 29 years of age, who died of a general peritonitis following the exploration of an appendiceal abscess which complicated pregnancy. Many points of intense interest were brought out particularly the matter of being conservative in the treatment of these cases.

FRANK L. LORIA, M. D.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

CALENDAR.

February 3. Eye, Ear, Nose and Throat Hospital Staff, 8 P. M.

February 7. Physiology Seminar, Tulane Medical School, 5 P. M.

February 10. *Orleans Parish Medical Society.* Joint Meeting of the Orleans Parish Medical Society with the New Orleans Gynecological Society, 8 P. M.

February 11. Baptist Hospital Staff, 8 P. M.

February 12. Touro Infirmary Staff, 8 P. M.

February 14. Physiology Seminar, Tulane Medical School, 5 P. M.

February 14. Medical Reserve Corps Branch School, 8 P. M.

February 17. Hotel Dieu Staff, 8 P. M.

February 18. Charity Hospital Medical Section, 8 P. M.

February 19. Charity Hospital Surgical Section, 8 P. M.

February 20. I. C. R. R. Hospital Staff, 12 Noon.

February 20. Eye, Ear, Nose and Throat Club, 8 P. M.

February 21. Physiology Seminar, Tulane Medical School, 5 P. M.

February 24. *Orleans Parish Medical Society,* 8 P. M.

February 28. Physiology Seminar, Tulane Medical School, 5 P. M.

February 28. Medical Reserve Corps Branch School, 8 P. M.

SECRETARY'S REPORT.

During the month of January the Society held two meetings. January 13 the annual Installation Meeting was held. This meeting was fairly well attended. The reading of the annual reports of the Secretary, Treasurer, Librarian and of the various committees was referred to the next meeting. The only addresses of the evening were the retiring address of the President, Dr. E. D. Fenner, the annual address of the incoming President, Dr. C. Grenes Cole and the annual oration, "The Doctor in Court," by Mr. William A. Porteous, Jr. All addresses were very interesting. The installation of the following Officers for 1930 took place:

President—Dr. C. Grenes Cole.
First Vice-President—Dr. Emmett Irwin.
Second Vice-President—Dr. James T. Nix.
Third Vice-President—Dr. Walter J. Otis.
Secretary—Dr. H. Theodore Simon.
Treasurer—Dr. John A. Lanford.
Librarian—Dr. Daniel N. Silverman.

ADDITIONAL MEMBERS BOARD OF DIRECTORS.

Dr. Erasmus D. Fenner.
Dr. I. M. Gage.
Dr. Louis Levy.

Following the meeting refreshments were served in the green room.

At the scientific meeting held Monday, January 27, the program was as follows:

Some Observations on Simple Blood Smear Agglutination Tests in Tularemia, Typhus and Undulant Fever. A Preliminary Report.
By.....Dr. Seab J. Lewis
Discussed by Dr. F. M. Johns

A Demonstration of Retrograde Esophageal Bougienage.
By.....Dr. H. L. Kearney
Discussed by Dr. Lucian Landry

The Home Treatment of Pulmonary Tuberculosis.
By.....Dr. D. L. Watson
Discussed by Dr. Emile Bertucci

This meeting was well attended. At this meeting the annual reports of the Secretary, Treasurer, Librarian and committees were read.

The following resolutions were adopted:

Whereas, by the Will of God, our Confrere, Dr. Charles V. Unsworth, was taken from among us by Death:

Therefore, be it resolved, That this Society desires to express to the family of Dr. Unsworth its regrets and sincere sympathy in its bereavement.

Be it further resolved, That these resolutions be adopted and that they be spread upon the minutes, and also that a copy be sent to the family of the deceased.

A final request for pictures to be placed in the History of the Orleans Parish Medical Society now being written by Dr. Fossier has been made. This book is now on the press, the only delay will be the making of cuts for the pictures.

TREASURER'S REPORT.

Actual Book Balance: 11/30/29	$ 392.42
Receipts	$4,966.75
	$5,359.17
Expenditures	$3,621.68
Actual Book Balance 12/31/29	$1,737.47

H. THEODORE SIMON, M. D.,
Secretary.

LOUISIANA STATE MEDICAL SOCIETY NEWS

H. Theodore Simon, M. D., Associate Editor.

The following Parish Medical Societies have elected officers for 1930:

East Baton Rouge Parish: President, Dr. H. W. A. Lee, Baton Rouge; Vice-President, Dr. A. L. East, Baton Rouge; Secretary-Treasurer, Dr. Edw. K. Hirsch, Baton Rouge; Delegates, Dr. R. G. McMahon, Dr. Cecil Lorio, Dr. Lester J. Williams, all of Baton Rouge; Alternates, Dr. Jeff McHugh, Dr. L. F. Lorio, Dr. Sidney D. Porter, all of Baton Rouge.

Franklin Parish: President, Dr. C. D. Powell, Crowville; Vice-President, Dr. L. F. Robinson, Winnsboro; Secretary-Treasurer, Dr. A. J. Reynolds, Winnsboro; Delegate, Dr. J. D. Rogers, Winnsboro; Alternate, Dr. R. E. King, Winnsboro.

Iberia Parish: President, Dr. Guy A. Shaw, Loreauville; Secretary-Treasurer, Dr. P. A. Boykin, Jeanerette; Delegate, Dr. Guy A. Shaw, Loreauville.

Morehouse Parish: President, Dr. R. B. Leavell, Bastrop; Vice-President, Dr. M. W. Owens, Bonita; Secretary-Treasurer, Dr. O. M. Patterson, Bastrop; Delegate, Dr. L. E. Larche, Bastrop.

Ouachita Parish: President, Dr. E. R. Yancey, Monroe; Vice-President, Dr. Wm. L. Bendel, Monroe; Secretary-Treasurer, Dr. Irma S. Jones, Monroe; Delegates, Dr. C. P. Gray and Dr. R. W. O'Donnell, both of Monroe; Alternates, Dr. J. H. Pankey and Dr. B. M. McKoin, both of Monroe.

Pointe Coupee Parish: President, Dr. J. O. St. Dizier, Walls; Vice-President, Dr. J. F. Cazayoux, New Roads; Secretary-Treasurer, Dr. F. F. Rougon, New Roads; Delegate, Dr. R. McG. Carruth, New Roads; Alternate, Dr. J. O. St. Dizier, Walls.

Vernon Parish: Dr. J. S. Branch, Leesville; Vice-President; Dr. A. S. Reisor, Leesville; Secretary-Treasurer, Dr. D. O. Willis, Leesville; Delegate, Dr. F. P. Jones, Leesville; Alternate, Dr. D. O. Willis, Leesville.

The Seventh District Medical Society met in Oakdale, Louisiana, December 12, 1929. The meeting and papers were enjoyed by a large number of members and visitors. The program was as follows:

Treatment of Vomiting of Pregnancy and Eclampsia, by Dr. John T. Sanders, New Orleans. Uses and Effects of Radium in Conditions of the Cervix and Uterus, by Dr. William L. Bendel, Monroe. A Subject of Vital Importance to all Ex-Service Men, by Lieut. Linden Dalfers, New Orleans.

R. S. KRAMER, M. D., Secretary,
Jennings, La.

At the regular meeting of the LaSalle Parish Medical Society, January 2, 1930, the following officers were elected to serve current year:

President, Dr. C. W. Patterson, Tullos (re-elected); Vice-President, Dr. Thos. M. Butler, Trout; Secretary-Treasurer, Dr. W. V. Taylor, Olla (re-elected); Delegate, Dr. W. V. Taylor, Olla; Alternate, Dr. H. S. Holloman, Standard.

MEETING AND ANNUAL BANQUET OF ST. TAMMANY PARISH MEDICAL SOCIETY.

The Society met at the New Southern Hotel, Covington, at 8 P. M., Friday night, January 10.

The members were honored by the presence of three prominent New Orleans physicians—Drs. Vidrine, Jules Dupuy and M. O. Miller. Dr. Felix Plauche, interne in Charity Hospital and of Covington, was another of the guests.

After the regular order of business and preceding the installation of officers, the outgoing president, Roland Young, gave a short accounting of his stewardship and urged that the members participate more in the scientific programs. He expressed his desire that the St. Tammany Parish Medical Society entertain the Sixth District Medical Society at its next fall meting, stating the society should do so; the time was ripe and Covington would be greatly benefited by it. It was moved and carried that this be given serious consideration and be decided upon at the February meeting.

Dr. Stevenson as acting president then welcomed Dr. Gautreaux as the new president. Dr. Gautreaux on assuming the chair reviewed a little of the society's history and stated that it was the most active of the parish societies.

The doctors then adjourned and retired to the dining room and feasted to a grand spread of Lorre's of the Southern Hotel. The banquet was interspersed by talks of much interest especially by the visiting doctors.

A most delightful feature of the evening was a dance and musicale by Miss Muriel and Byron Gautreaux, son and daughter of Dr. H. E. Gautreaux.

L. ROLAND YOUNG, M. D.

Resolution of respect in regard to the death of the late Dr. R. L. Credille, who died on November 27, 1929:

Whereas, it has pleased Almighty God to take from our midst our beloved brother and friend, Dr. R. L. Credille, who was a member of the Morehouse Parish Medical Society.

We are all grieved at his passing but we know that our Almighty God and Creator of the universe never makes any mistakes.

In his death the entire parish has lost one of its most useful, valued and prominent citizens whose place will never be filled; and this society has lost a most valued member and one of the

most outspoken doctors and physicians in this section of the State.

Dr. Credille was a well known citizen of Morehouse Parish, having practiced in this parish for the past thirty years, and was not only one of the best physicians in this section of the state, but was honest, upright and a Christian gentleman throughout his life and in all his dealings, and respected and loved by everyone and especially by all the members of our profession.

We extend to his family and relatives our heartfelt sympathy.

Therefore, be it resolved, That this resolution be spread upon the minutes of our society, a copy hereof sent to the family, and a copy sent to the press.

Respectfully,
O. M. PATTERSON, Chairman.
L. E. LARCHE,
W. A. ROGERS,
Resolution Committee.

WEEKLY HEALTH INDEX.

During the week of December 21, 1929, there was a total of 161 deaths in the City of New Orleans. Sixteen of those who died were under the age of 1. The death rate during this particular week was 19.6 as contrasted with 26.3 one year ago. In the last week of the year the death rate jumped up considerably, possibly as a result of the extremely cold weather. There were 204 deaths in the city of which 21 were infants. The death rate was 24.8 as contrasted with 36.3 the corresponding week of 1928. In the first week of the new year the death rate was 23.2 with a total of 191 deaths, of which 14 were in infants under 1 year of age. The death rate this particular week week of 1929 was 40.1. In this particular week there were 329 deaths. The death rate fell somewhat during the course of the last week of which we have recorded, namely, the week of January 11. There were 173 deaths, 22 of which were in children under 1 year of age. The death rate itself was 21, incidentally a higher rate than in any other city in other states of which weekly death rates are reported. However, it was a decided improvement over the previous year, when there were 266 deaths with a death rate of 32.3.

TOTAL OF 52 WEEKS IN 1929.

During the year 1929 there were 8,043 deaths in the City of New Orleans, 748 of which were in small infants. The death rate for the year was 18.8, figures which are extremely high, although Memphis with a death rate of 20.2 had a still higher death rate. Incidentally these figures are some improvement over the previous year when there were 8,242 deaths with a rate of 19.2.

NEWS AND COMMENTS.

ALABAMA MORTALITY STATICTICS.

It may be of some interest to contrast the Alabama mortality statistics with those recetly published in the Journal from the State of Louisiana. The death rate in Alabama was 1,237.7 per 100,000 population, somewhat lower than it was in Louisiana. As in this State, the most marked increases in rate were from diseases of the heart, cerebral hemorrhage, nephritis and diabetes mellitus. As with Louisiana, the influenza rate was more than doubled, but unlike her sister state, the death rate from tuberculosis increased somewhat as did the pellagra rate. Accidental causes of death also increased in this state as it did in Louisiana.

INVITATION.

The honor of your presence is respectfully requested at the opening ceremonies of the St. Joseph Hospital, Thibodaux, La., on Sunday, January 19, 1930, at 3:00 o'clock in the afternoon.

His Grace, J. W. Shaw, D. D., Archbishop of New Orleans, will preside at the blessing and dedication.

Executive Committee.

THE COMMONWEALTH FUND.

The Commonwealth Fund announces a plan of co-operation in the State Health Departments to promote rural health. The program was based on three fundamental principles: first, that the state health department should direct, guide and foster rural health activities; second, that the progressive practice of medicine is the foundation of sound health work; third, that to secure maximum results physicians, nurses, teachers, and the official health personnel must join forces. Therefore two related lines for service were planned: first, assistance to state health departments in setting up field supervision for rural health work and in developing adequate local service; and second, assistance to schools of medicine, normal schools, individual physicians, nurses, and teachers to promote special training for rural health service. Space does not permit any elaboration of the plan. Suffice it to say that it is intended to be flexible and experimental. Proposals for co-operative activities under this plan and requests for further information should be addressed to William J. French, M. D., Commonwealth Fund, Fuller Building, Madison Avenue and Fifty-seventh Street, New York.

WOMAN'S AUXILIARY OF THE AMERICAN MEDICAL ASSOCIATION.

This organization has undertaken an official health program, which is quite pretentious in character, to undertake to help, aid and assist in the promotion of public hygiene and the improvement of public hygiene, the latter by education, the former largely through the State Auxiliary.

MISSISSIPPI STATE MEDICAL ASSOCIATION NEWS

L. S. Lippincott, M. D., Associate Editor

CENTRAL MEDICAL SOCIETY.

Dr. W. L. Hughes reports that the annual meeting of the Central Medical Society was held at the Edwards Hotel at Jackson on December 17, 1929. After the annual banquet the following scientific program was presented by visiting essayists:

A Study of the Spinal Fluid As An Aid in the Understanding of Meningitic Symptoms or Meningitis.—Dr. R. C. Bunting, Memphis.

The Treatment of Early and Late Toxemias of Pregnancy.—Dr. Thomas B. Sellers, New Orleans.

These very interesting and instructive papers were the high lights of the meeting and brought forth enthusiastic discussions.

At the business session of the society the following officers were elected for 1930: President, Dr. R. W. Hall, Jackson; Vice-Presidents: from Hinds County—Dr. S. H. McLean, Jackson; from Simpson County—Dr. E. L. Walker, Magee; from Rankin County—Dr. W. H. Watson, Brandon; from Madison County—Dr. J. B. Howell, Canton; from Yazoo County—Dr. Gilruth Darrington, Yazoo City; Secretary, Dr. W. L. Hughes, Jackson; delegates to the Mississippi State Medical Association: from Hinds County—Dr. J. P. Wall, Jackson; from Simpson County—Dr. E. L. Walker, Magee; from Rankin County—Dr. W. H. Watson, Brandon; from Madison County—Dr. C. G. Bell, Canton; from Yazoo County—Dr. C. M. Coker, Eden.

Dr. J. P. Wall of Jackson has been appointed chairman of the publication committee of the society.

Dr. Henry Boswell, Superintendent and Director of the Bureau of Tuberculosis, Mississippi State Sanatorium, has sent the following letter to the physicians of the State:

"Soon after the first of the year we are going to open our Preventorium for the care of undernourished and under-developed white children ranging from four to eleven years of age. The County Health Department in each County will handle the applications for you.

"Should you have a child who has been exposed to tuberculosis who is under developed and you think would be benefitted by coming here, please apply to the County Health Officer for blanks. No active case of tuberculosis will be admitted to the Preventorium."

HOMOCHITTO VALLEY MEDICAL SOCIETY

A meeting of the Homochitto Valley Medical Society was held on January 9, at Centreville, the society being the guests of Drs. Richard J. Field and Samuel E. Field at the Field Memorial Hospital.

Dr. Urban Maes of New Orleans, and Dr. Henry Boswell of Sanatorium were the principal speakers.

FROM OUR SECRETARY.

To Mississippi Doctors:

This is to again call your attention to the increased dues of the State Association. At the meeting of the House of Delegates in Gulfport in May, 1929, the dues were increased from three to four dollars, this having been found necessary in order to meet the expenses of the Association and to provide a safe margin for future emergencies.

These dues were due and payable to your local secretary on or before January the first. The By-laws provide the following for county Secretaries:

"The Secretary of each county Society shall forward its assessment, together with its roster of all officers and members, list of delegates, and list of non-affiliated physicians of the county, to the Secretary of the Association by February 1st.

"Any county society which fails to pay its assessment or make the reports required on or before the date above stated, shall be held as suspended, and none of its members or delegates shall be permitted to participate in any of the business proceedings of the Association or of the House of Delegates until such requirements have been met."

Cordially yours,

T. M. DYE, Secretary.

Dr. V. B. Martin, Surgeon in charge, of the Martin Sanatorium at Picayune, is very much in need of a young physician to assist him in his work. He would prefer one with some interne experience and one competent to take out an acute appendix if necessary. Dr. Martin will pay a salary and allow an assistant all of the outside practice he can command. If anyone can help Dr. Martin to get in touch with such a prospect, he will appreciate it very much.

THIRTEEN COUNTIES MEDICAL ASSOCIATION.

Dr. J. M. Acker, Jr., Secretary, reports that the Northeast Mississippi Thirteen Counties Medical Society met in Tupelo, December 10. Dr. Carroll W. Allen, New Orleans, guest essayist, addressed the Society on, "Abscess of the Lung."

Resolutions were adopted favoring the passage of drastic legislation in regard to the labelling of lye and other caustics for sale.

A banquet was given by the Tupelo doctors to the members of the society in the banquet hall of the Baptist Church.

Officers for 1930 were elected as follows: President, Dr. K. F. McRae; Vice-Presidents: from Alcorn County, Dr. J. R. Lanning; from Calhoun County, Dr. W. J. Aycock; from Chickasaw County, Dr. W. C. Walker; from Clay County, Dr. L. W. Dotson; from Itawamba County, Dr. S. L. Nabors; from Lee County, Dr. W. H. Eason; from Lowndes County, Dr. W. C. Brewer; from Monroe County, Dr. C. B. McCowan; from Noxubee County, Dr. S. F. Hill; from Oktibehha County, Dr. J. E. Eckford; from Pontotoc County, Dr. E. G. Abernathy; from Prentiss County, Dr. R. B. Cunningham; from Tishimingo County, Dr. N. C. Waldrop; Secretary, Dr. James M. Acker, Jr., Aberdeen; Delegates to the Mississippi State Medical Association: from Alcorn County, Dr. M. W. Robinson, Alternate, Dr. R. E. Honnell; from Calhoun County, Dr. E. B. Young, Alternate, Dr. W. J. Aycock; from Chickasaw County, Dr. V. B. Philpot, Alternate, Dr. E. G. Armstrong; from Clay County, Dr. A. K. Naugle, Alternate, Dr. S. R. Deans; from Itawamba County, Dr. S. L. Nabors, Alternate, Dr. N. W. Nanney; from Lee County, Dr. Roy Carruth, Alternate, Dr. J. H. Green; from Lowndes County, Dr. E. Q. Withers, Alternate, Dr. P. L. Fite; from Monroe County, Dr. J. M. Acker, Jr., Alternate, Dr. E. Q. Ewing; from Noxubee County, Dr. J. D. Green, Alternate, Dr. C. W. Salter; from Oktibehha County, Dr. C. R. Dabbs, Alternate, Dr. F. B. Long; from Pontotoc County, Dr. R. P. Donaldson, Alternate, Dr. A. P. Dunavant; from Prentiss County, Dr. W. H. Anderson, Alternate, Dr. L. L. McDougall; from Tishimingo County, Dr. N. C. Waldrop, Alternate, Dr. A. E. Bostick.

Medico Legal Committee elected for one year, Drs. G. S. Bryan, H. L. Scales and W. C. Walker.

Credentials Committee elected for one year, Drs. V. B. Philpot, W. J. Aycock and S. L. Stephenson.

The next meeting of the Society will be held at Booneville on the third Tuesday in March.

THE DESOTO COUNTY MEDICAL SOCIETY.

Dr. L. L. Minor, Secretary, reports that the Desoto County Medical Society met in regular session on January 6. Dr. Charles Whitley Emerson, of Hernando, was elected President for the coming year; Dr. A. V. Richmond, Lake Cormorant, Vice-President; Dr. L. L. Minor, Memphis, Secretary and Treasurer; Dr. A. L. Emerson, Hernando, member of the Board of Censors for three years.

The next meeting of the Society will be held on the first Monday in April, when a plate dinner will be given in honor of its oldest member, Dr. W. S. Weissinger, Hernando. Dr. Weissinger wore the grey of a Confederate Soldier. His health is excellent.

Dr. J. M. Wright, Hernando, has been forced to relinquish his practice temporarily on account of bad health.

Dr. A. A. Sparkman, Lake Cormorant, who was sick during the fall, is now in excellent health.

THE CRAWFORD CLINIC.

Dr. Walter W. Crawford has announced the opening of The Crawford Clinic at the South Mississippi Infirmary, Hattiesburg. The Staff includes, Dr. Franklin T. Bower, General Medicine and Roentgenology; Dr. Charles C. Buchanan Eye, Ear, Nose and Throat; Dr. Walter W. Crawford, Surgery, Gynecology and Radium; Dr. John P. Culpepper, Jr., General Medicine; Dr. Joseph E. Green, Pediatrics and Obstetrics; Dr. Altus B. Harvey, Surgery and Urology; Dr. John Paul Jones, Dental Surgery.

The Clinic occupies a new building of sixty rooms and is thoroughly equipped, including complete physiotherapy, hydrotherapy and mechanotherapy departments. The clinic operates in direct connection with the South Mississippi Infirmary.

W. Hamilton Crawford is Director.

RUSH'S INFIRMARY.

The regular monthly Staff Meeting of Rush's Infirmary was held on January 3. The program included the following:

Case Report—Encephalitis Lethargica—Dr. Thomas E. Royals.

Symposium on Spinal Fluid and Conditions Affecting Same.

The Physiology of the Normal Cerebro-spinal Fluid—Dr. H. Lowry Rush.

The Spinal Fluid from the Internist's Point of View—Dr. L. Hart.

The Spinal Fluid from the Surgeon's Point of View—Dr. J. H. Rush.

The Spinal Fluid from the Pathologist's Point of View—Dr. S. R. Stingily.

General Discussion.

Suggestions for improving the service of the Hospital.

Announcement has been made that Dr. G. L. Arrington has returned to Meridian with offices in the Citizens Bank Building. His practice will be limited to pediatrics.

LYE BILL.

"January 3, 1930.

"Dear Mr. Editor:—

"Please tell the members that Senator Culkin of Warren will introduce the Lye Bill early in the session, and that as soon as it reaches the House Dr. J. S. Austin will get behind it. Dr. I. W. Cooper has captured the interest of Mr. Bailey, the speaker of the House, for it and he has promised his assistance.

"About the time that this reaches the members of the Association everything will be ripe for their help. If they will busy themselves with their representatives, we can put it over.

"Yours,

"The Committee on Lye Legislation,
"By E. F. HOWARD."

Acknowledgement is made of the receipt of the report of the Warren County Health Department for the period October 1, 1927 to June 30, 1929. The report, which covers the twenty-one months from the organization of the department, shows that a well rounded program is being followed and much good has been accomplished. Dr. F. Michael Smith is Director.

VICKSBURG SANITARIUM.

The Regular Monthly Meeting of the Staff of the Vicksburg Sanitarium and Crawford Street Hospital was held on January 10.

Special case reports presented:

Conservative Treatment of Eclampsia (two cases)—Dr. G. M. Street.

Nephrolithiasis with Suppurative Pyelitis—Dr. A. Street.

Vague Abdominal Symptoms Due to Uncinaria Americana—Dr. J. A. K. Birchett, Jr.

Pseudo Angina—Dr. L. J. Clark.

Selected Radiographic Studies were demonstrated as follows:

Fracture-dislocation of ankle; Fracture-dislocation of elbow; Fracture-dislocation of neck; Fracture of skull; Arthritis of spine; Scoliosis of Thoracic spine with pulmonary tuberculosis; Enlarged thymus; Carcinoma of the stomach; Cholelithiasis (2 cases).

ISSAQUENA-SHARKEY-WARREN COUNTIES MEDICAL SOCIETY.

The regular monthly meeting of the Issaquena-Sharkey-Warren Counties Medical Society was held at Vicksburg on January 14. Dr. F. Michael Smith, Vicksburg, presented three reels of motion pictures on the Diagnosis and Treatment of Syphilis.

The committee appointed at the November meeting to investigate the policies of the Health Departments of the Counties of Issaquena, Sharkey, and Warren, made its report, which was followed by a general discussion and brought out the cordial relations existing between the medical profession and the department of health.

The Secretary presented the report for the year of 1929 as follows:

Membership: Regular, 42; Life, 1; Honorary, 3. Total, 46.

Meetings held, 11 (two were joint meetings with the Central Medical Society, one in Jackson, and one in Vicksburg.)

Attendance: Members, 186; average per meeting, 17; visitors, 70; average per meeting, 6. Total attendance for year, 256; average attendance per meeting, 23.

An invitation was received from the Fifth District Medical Society of Louisiana, through its President, Dr. C. L. Mengis, Sterlington, La., to take part in a joint meeting with the Fifth District Society at Monroe, La., some time in June, the Fifth District Society to join the local society for its annual meeting in Vicksburg next December. For the June meeting, the Fifth District Society is to furnish the program, with a clinic in the forenoon, either a barbecue or fish fry in the gas fields nead the Louisiana Power Plant, golf or visits to the clubs in the afternoon, with the scientific program after dinner. It was pointed out that by June, the bridge over the Mississippi River should be completed and the road to Monroe paved all of the way. The Society unanimously voted to accept the invitation.

President L. J. Clark appointed as the standing committee on Public Health and Legislation, Doctors F. Michael Smith, Vicksburg; T. W. Huey, Grace; E. B. Stribling, Rolling Fork.

Dr. Mark T. Boyd, in charge of Malaria Control Work for the State Board of Health, ex-

plained a regulation of the State Board of Health creating a special malaria morbidity reporting district, which includes the counties of Issaquena, Sharkey and Warren. The purpose of this regulation is to determine the actual malaria situation in the district and to aid in the eradication of this disease.

Visitors at this meeting included Doctors Felix J. Underwood, C. C. Applewhite, H. C. Ricks, Mark T. Boyd, W. E. Noblin, all of Jackson; W. T. Duke Glen Allen, and R. H. Foster, Mound, La.

The next meeting of the Society will be held February 11. The program will be in charge of a committee composed of Drs. A. K. Barrier, Rolling Fork; M. H. Bell, Vicksburg; J. W. B. Benton, Valley Park; J. A. K. Birchett, Vicksburg, and H. H. Johnston, Vicksburg.

HEALTH CONDITIONS IN WARREN COUNTY.

The following letters, as bearing on health conditions in Warren Cunty, were presented to the Issaquena-Shrakey-Warren Counties Medical Society at its last meeting and were enthusiastically received.

"October 23, 1929.

"Honorable James W. Good,
"Secretary of War,
"Washington, D. C.

"Dear Sirs:

"In the unfortunate controversy that has been waged in the public press relative to the location of the Mississippi River Commission's headquarters that had been offcially announced as having been placed at Vicksburg, some reference has been made to health conditions with the inference that Vicksburg would not be as desirable location as other points, etc.

"As director of the Warren County Health Department, city health officer and field agent of the United States Public Health Service, permit me to call your attention to a few facts that have been admirably and truthfully stated in an editorial in the September, 1929, edition of the American Public Health Association and published at 370 Seventh Avenue, New York City. The title of the editorial is 'Leadership in American Public Health,' and we quote in part as follows:

" 'Leadership in American public health now rests with the Southern States. Not only have they made the greatest progress in recent years in the organiation of their public health services, but they seem to show most promise in their readiness and ability to extend and perfect their organizations to the point of adequacy. The richer and more complacent northern and eastern areas of the country have much to learn from their sister states below Mason and Dixon's line. It is hoped that they will not lose much time in profiting from the admirable lesson. The history of this shifting of leadership to the Southern States is full of interest."

"In a latter paragraph of this editorial it is further stated as follows: 'It is literally true that when health observers from abroad come for the study of our best rural work, it is necessary to take them to such Southern States as **Mississippi** and Tennessee, rather than to the Northern States where health work has been in operation much longer and where brilliant achievements were recorded in the past. Possibly it would be more charitable to say that health work in most Northern States being older, has reached a more or less static condition in relation to basic needs. But there is little to inspire in this situation.'

"Permit us to say that only a few months ago a delegation from South American countries and some European countries were visitors and observers in the Warren County Health Department of Vicksburg, Mississippi, for the purpose of taking back to their own countries that which impressed them as being good in health work. Some two weeks ago Dr. Fang Yung Li, a graduate of the Medical Department of the University of Peking was sent by the Rockefeller Foundation to this country to this country to study Public Health measures and methods and he spent one week of this time in the Warren County Health Department, Vicksburg, Mississippi, and proceeded from here to Johns Hopkins University in pursuit of further studies.

"Today we have on our desk a communication from the State Health Department advising that Dr. T. A. Pincock, Deputy Minister of the Department of Health and Public Welfare at Winnipeg, Manitoba, expects to arrive in Vicksburg on the morning of October 24, 1929, for an 'observation of the methods and measures used in the Warren County Health Department.'

"These matters are called to your attention without any spirit of arrogance, but to respectfully confirm just what was said by the editor of the American Journal of Public Health in its last publication. Now for a more positive ascertaining of the character of the health work and conditions in this locality, we respectfully ask you to call upon Surgeon L. L. Lumsden, Hygienic Laboratory, Washington, D. C., director of rural sanitation, United States Public Health Service, or upon the Bureau of County Health Work,

State Board of Health, Jackson, Mississippi. If details would be of interest it would be our pleasure to submit same. Though we are impressed that all of this is useless and futile as your department is in full possession of all facts enumerated, you will pardon us for recounting and presenting some. Our only excuse is to counteract a belief that some might hold that silence was an admission that our health department was inefficient and inadequate to meet the needs of our advancing civilization.

Yours very truly,

"F. MICHAEL SMITH, M. D., Health Officer,
"Field Agent, U. S. Public Health Service."

"WAR DEPARTMENT,
"Washington

"E. D. 1105-589 November 2, 1929.
"F. Michael Smith, M. D., Director,
"Warren County Health Department,
"1222 Washington Street,
"Vicksburg, Mississippi.

"Dear Sir:

"Receipt is acknowledged of your letter of October 23rd inviting attention to the excellent health conditions obtaining in and around Vicksburg.

"The extracts you quote therein and the investigations by others of the methods and measures used for the advancement of health protection furnish ample proof that health conditions in Vicksburg are satisfactory.

"Sincerely yours,
"JAMES W. GOOD,
"Secretary of War."

MALARIA CONTROL.

Dr. Felix J. Underwood, Secretary and Executive Officer of the Mississippi State Board of Health, has sent the following letter to the physicians of the Delta Counties:

"The State Board of Health, at a meeting held on December 12, adopted a regulation creating a special malaria morbidity reporting district, which includes your county. A copy of this regulation is enclosed for your information and guidance.

"The data compiled from our existing malaria reports indicates that in the Delta Counties we face a considerable malaria problem. However, the present method of compiling these data leads to the following conclusions:

"(A) That they do not correctly reflect the actual malaria situation in the State, but give rise to exaggerated ideas which work an injury to us, especially apparent to those who view Mississippi frm outside.

"(B) That they do not permit us to face the facts nor do they permit the Health Department to learn the locations where malaria occurs. In order that County Health Departments can effectively deal with the causes of malaria prevalence, it is essential that each case be reported individually and that you carefully and accurately record the place of residence of every case reported, in order that the malarious localities of y ur county will be revealed to the Health officer.

"(C) That it is highly important that a diagnosis of malaria be restricted to cases of illness undoubtedly caused by the malarial parasite, and that insofar as possible these be verified by blood examination. Outfits for the collection and transmission of blood smears to the laboratory, a sample of which is enclosed, are freely availa'le to you through the County Health Department. Their use will also simplify reporting as described in the regulation.

"Since the State in which we are mutually interested can only deal with this problem effectively by facing the facts, whatever they may be, the State Board of Health earnestly requests your co-operation in enforcing this regulation as it proposes to vigorously promote through the County Health Department, appropriate measures for the control of this disease."

This is certainly a step in the right direction and deserves the active support and co-operation of every physician in the interest of our State.

SOME HIGH LIGHTS IN MISSISSIPPI MEDICAL HISTORY.*

At the Grenada meeting in 1877, for the purpose of benefiting the work of the Association itself and increasing its membership, the executive committee suggested an organization, with county and local societies as integral parts, similar to that later effected in 1903, but no definite plan was set forth and no action taken.

At this meeting there were selected as members of the Board of Health of Mississippi: First Congressional District, J. M. Taylor and A. G. Smythe; Second District, T. D. Isom and John Wright; Third District, E. W. Hughes and S. V. D. Hill; Fourth District, C. B. Galloway and P. J. McCormick; Fifth District, Robert Kells and C. A. Rice; Sixth District, R. G. Wharton and P. F. Whitehead.

The State Board of Health, thus formed, must, in spite of criticisms of its powers by the executive committee, have found some work to do, for in the minutes of the 1878 meeting, held in Jackson, appears a resolution appropriating twenty-five dollars to pay for some copies of its "First Annual Report" for distribution among the members.

(*Facts gathered from a History of the Mississippi State Medical Association, published in 1910).

BOOK REVIEWS

Physiology and Biochemistry of Bacteria: By R. E. Buchanan, Ph. D., and Ellis I. Fulmer, Ph., D. Baltimore, Williams & Wilkins Co. 1928. pp. 516.

This book is in no sense a clinical laboratory manual of bacteriology. It is an extremely scientific discussion of the biophysical chemistry of microorganisms, particularly of the bacteria, yeasts, and molds.

The book is divided into five chapters. The first chapter consists of an introduction, in which the authors state that their aim is to compile and systematize the present knowledge of the physiochemistry of bacteriology, which now exists in a widely scattered state. Chapter II deals with growth phases and growth rates in cultures of microorganisms; Chapter III deals with the chemical composition; Chapter IV, the physiochemical and physical characteristics of microorganisms and their environment; Chapter V, the energy relationships, growth and movements of microorganisms. The fundamental laws of physiology, chemistry, physics and mathematics are discussed, and applied to the problems of the life and growth of bacteria. The correlation with mathematics is particularly stressed, and the phenomena related to the vital processes are expressed in mathematical formulae wherever possible. The illustrations consist of tables and graphs.

The book is not written for the medical profession. The organisms discussed in greatest detail are not those pathograms which are of interest to the physician, but rather those which affect such sciences as sugar chemistry and agriculture. However, the members of the medical profession who are working with microorganismal atoms will find interest in portions of the book. There are excellent discussions of methods of counting bacteria, titrations of media, and of agglutination and precipitation phenomena. There are liberal references to the research that has been done on the matter presented, and at the end of the book there is a list of the literature cited, which will greatly facilitate one in further study of selected topics.

ADELAIDE MARY ZOELLER, M. D.

Text-Book of Urology: By Daniel N. Eisendrath, M. D., and Harry C. Rolnick, M. D. Philadelphia, J. B. Lippincott Co. 1928. pp. 942.

Eisendrath and Rolnick have given both students and practitioners an excellent reference work on urology in the treatise here reviewed. The mere fact that a work of 942 pages contains 700 illustrations in black and white and 11 plates in color, alone calls for special mention. No work on urology that we have seen is so profuse in its illustrations.

The introductory chapters dealing with embryology, anatomy, physiology, terminology, urologic instruments, etc., are complete and comprehensive. The studies in anatomy of the renal pelvis as illustrated with pyelograms is both unique and edifying. Eisendrath's investigations on the anomalous blood supply to the kidney have done much to clear-up certain hazy conceptions of post-operative hemorrhage following operations on this organ.

The importance that one must attach to cystoscopy, urethroscopy and radiography in the study of uro-genital disturbances are fittingly emphasized and illustrated with graphic cuts, some of which are in colors.

Eighty-six pages are given over to the management of gonorrhea; ten of these pages form a separate chapter on gonorrhea in women, and this section is edited by Dr. Irving F. Stein.

Seventy-three pages are alloted for dealing with prostate and seminal vesicles. Besides cystoscopic study, he stresses the use of cystograms in the diagnosis of prostatic tumors. In those cases of chronic seminal vesiculitis that are resistant to the usual modes of therapy employed, he again recommends radiologic study by instilling some opaque media into the vas and then outlining the vesicles in the film. They review the vas deferans and the testes and scrotum in separate chapters; sterility in the male is gone into quite fully.

In passing, the pages dealing with pathologic conditions of the bladder one is impressed with the excellent cystograms illustrating the various types of bladder tumors.

Stricture of the ureter is accorded a proper place in a text such as this is, and again the urograms splendidly reveal the possibilities of the combined radiologic and cystoscopic study of all cases in which vague abdominal pain cause the clinician much worry due to an inability to relieve symptoms.

Tuberculosis of the urinary tract—a condition rarely seen now-a-days in private practice in Louisiana—is fully covered. They stress the demand for nephrectomy in unilateral involvement as nothing short of this hold out any permanent relief.

This work is well-balanced throughout.

H. W. E. WALTHER, M. D.

Uriology: By Edward L. Keyes, M., Ph. D., F. A. C. S. New York, D. Appleton & Company. 1928. pp. 763.

There is no work better known in urological circles than "Keyes." Perhaps two-thirds of the men now practicing used this text while in college. The literary labors of father and son have passed through twelve separate editions, beginning with the appearance of Keyes' Practical Treatise on the Surgical Diseases of the Genito-Urinary Organs in 1874.

Dr. Keyes lauds the illustrations of Miss E. M. Freret, New Orleans girl, which are used throughout the work, and are truly beautiful. In all, the books contains 184 illustrations and twenty plates.

The physical examination in urological cases is graphically described; asepsis in urethral examination and treatment is stressed; urethroscopy and cystoscopy are given their true evaluation and the valuable aid urography is today to the clinician is emphasized.

The renal functional tests in impaired kidney function are explained. Keyes' views on urinary antiseptics is rather ultra-conservative; many workers today take a more optimistic view. It is possibly the old story of youth being optimistic and old age being pessimistic. For example, he remarks that pyridium, by mouth, is of no more value than the impression it makes on the patient's mind; for, says he, "if they did not color the patient's urine, they would not color his thoughts." Most workers with pyridium are really not interested in the patients' thoughts in the matter. Results are what count. That is why the profession must interest itself in pyridium and serenium.

Along with the writings of Young, Keyes has done much to draw the attention of the profession to the prostate gland and its relation to focal infection in the male. Also, his chapter on prostatism is very well worth while.

Those chapters dealing with tumors of the kidney, prostate and bladder are modern in every respect. Here the drawings of Miss Freret are particularly true to nature.

He takes up suprapublic as well as perineal removal of the adenomatous prostate. He rather decrys repeated intraurethral manipulations (punch operations), such as are recommended so highly of late by Caulk and Collings. He feels that it is decidedly unfair to mislead patients into a feeling of false security by subjecting them to these makeshifts which, at best, can only furnish temporary relief.

Chanchroid, syphilis and gonorrhea are included among the chapters of the book, but of the three gonorrhea receives the major attention.

Dr. Keyes' inimical way of writing makes for most fascinating reading. His philosophical sayings, such as "I never know when I need a pyelogram until after it is made," endear him to the hundreds of young urologists in America who look to him for guidance.

H. W. E. WALTHER, M. D.

Hygiene and Public Health: By Parkes and Kenwood. Eighth edition, revised by Henry R. Kenwood and Harold Kerr. Philadelphia, P. Blakiston, Son & Co. 1929. pp. 823.

The fact that this work has attained an eighth edition indicates its practical value. The authors have brought the book up to date and reflects the latest advances in public health and preventive medicine. It contains a large amount of information that is a reliable guide though there are some slight differences as compared with our writers and customs.

While under warming we find that sitting-room or workroom should be from 62 to 65 degrees Far., and that bedrooms less. It is hard to make the public understand, especially hotels and other places frequented, that, when necessary to use artificial heat, the temperature should not exceed 70 or 72 at most, and sleeping apartments not to exceed 60, but they answer the public demands it. More people have suffered from overheating than from a reasonable or low temperature, as suggested.

Dealing with milk allowance of 200,000 bacteria per c.c. is permitted for Grade A, while the regulations prepared and promulgated by the U. S. P. H. Service require not exceeding 50,000, and for Certified milk they permit 30,000, while we require not exceeding 10,000.

The 14 chapters deal with Water; Refuse; Air and Ventialation; Warming and Heating; Soils and Building Sites; Climate and Meteorlgy; Food, Beverages and Condiments; Personal Hygiene; Communicable Diseases; Isolation Hospitals; Disinfection—Disposal of the Dead; Maternity and Child Welfare; Industrial Hygiene and Vital Statistics. There are 91 illustrations with two additional plates that are sensible and show the points the author wishes to emphasize. Whether public health worker or general practitioner, you need this book because it gives the information you want.

Under communicable diseases recommendation is made with legislative sanction that advanced cases of tuberculosis, where they cannot be satis-

factorily isolated at home, be removed to a hospital for a period of three months, and this can be repeated from time to time as long as necessary. To adequately safeguard against this regulation being harshly applied, the patient has the right to have his case reviewed any time after six weeks. By order of the Justice the local authorities must contribute to the maintenance of the patient's dependents while he is isolated. This seems worthy of emulation.

Doctors interested in preventive medicine and public health work will never regret buying this book. It is well worth while for the medical student.

OSCAR DOWLING, M. D.

An Introduction to the Study of Physic: By William Heberden. With Preferatory Essay by Leroy Crummer. New York, Paul B. Hoeber, Inc. 1929. pp. 159.

This little book is the ninth of a series of medical history monographs published by Hoeber. It differs from the earlier volumes in that, in addition to a prefatory essay on Heberden himself, the full text of the latter's "Introduction to the Study of Physic" is for the first time published. Heberden's advice to the prospective medical student is interesting in that it presents a critical review by a contemporary of the state of medicine in the 1750's. Another interesting feature of this little book is the "Account of a Disorder of the Breast," which is reprinted. It was Heberden who first named and described Angina Pectoris.

M. M. WINTROBE, M. D.

Endocrine Disorders: By Hans Curschmann. New York, Oxford University Press. 1929 pp. 188.

This is a short but interesting treatise upon the glands of internal secretions. In some 180 pages the author has managed to condense a large amount of practical information. As is common with many foreign authors, little reference is made to American literature. In the chapter on hyperthyroidism, Plummer's classification is not even mentioned nor is the question of the common identity of toxic adenoma and exophthalmic goitre considered. The author recommends roentgen-ray therapy for mild and medium severe cases; in severe cases of those intolerant of roentgen-ray, partial thyroidectomy is the treatment of election. In the chapter on parathyroid disorders, the isolation by Collip of its active hormone is mentioned, but the author's experience with the product is apparently limited although he throws out the suggestion that it may well make possible an effective substitution treatment. The chapter on the gonads is by Franz Prange. This inclues sexual inversion, hermaphroditism, homo sexuality and rejuvenation. The author is conservative in his estimate of the value of many of the methods of rejuvenation now in vogue, such as organ transplantation, roentgen-ray or diathermy. He believes in certain cases, where ordinary therapy fails, rejuvenation methods may be tried, albeit, in his opinion, without any undue optimism. The book ends with a description of certain diseases of the nervous system, bones and blood, in which pluri-grandular syndrones occur. On the whole, this book is well written and contains a great deal of interesting material. The author has had a wide experience in endocrine disorders and does not hesitate to express his own opinions which adds much to the value of the book.

RANDOLPH LYONS, M. D.

Modern Methods of Treatment: By Logan Clendening, M. D. With chapters on special subjects by H. C. Anderson, M. D., J. B. Cowherd, M. D., H. P. Kuhn, M. D., Carl O. Rickter, M. G., F. C. Neff, M. D., E. H. Skinner, M. D., and E. R. DeWeese, M. D. Third edition. St. Louis, C. V. Mosby Company. 1929. pp. 815.

An excellent book for which I have nothing but praise. The advanced medical student and the practitioner will find it invaluable. The comment made with regard to a previous edition is repeated here. This is no dry as dust treatise on materia medica nor a catalogue of procedures. The author has judiciously introduced a sufficient outline of the history of each drug and procedure as to stimulate the interest of the reader in the development of the art of medicine. He has studiously refrained from making his book a treatise on pharmacology while at the same time giving adequate accounts of the physiological action of the various procedures.

Several minor criticisms may be made. One is that the article on dietetic treatment on diabetics is apt to prove confusing to the beginner because of the author's plan of including a large number of different schemes of calculation. A simpler and more dogmatic attitude might better serve the purpose. In the article on the treatment of malaria, a statement is made that the patient should take 30 grains of quinin every night for eight weeks and the context would give the impression that this is Bass' recommendation. Bass, however, recommends 30 grains daily for three or four days and 10 grains every night for eight weeks.

I. I. LEMANN, M. D.

Outline of Preventive Medicine for Medical Practitioners and Students: Prepared under the auspices of the Committee of 35 on Public Health Relations, New York Academy. New York, Paul B. Hoeber, Inc. 1929. pp. 398.

This book has been written and published to meet the needs of the busy family doctor, and help the students of medicine, that they may have a knowledge of those principles on which modern hygiene and public health are based.

The Foreword by Dr. Charles L. Danna and the Introduction by the Editorial Committee, Drs. Frederic E. Sondern, Charles Gordon Heyd and E. H. L. Corwin, are gems and should be carefully read and studied by every practicing physician.

The 21 chapters, while condensed, on account of limited space, give ample evidence of the knowledge of the authors in handling their respective subjects. The book is entitled to wide distribution among the busy practitioner and the medical student as well as those engaged in public health work and preventive medicine.

When one realizes a minimum of 2 per cent of the population is sick at all times, and 3 per cent of the wage earners have tuberculosis, with the knowledge a large portion of these could be prevented, the importance of the periodic examination is vividly portrayed. These examinations afford unusual opportunity to detect early cases of tuberculosis, heart, kidney and other diseases and gives a chance to correct some of the faulty habits of living and aid in keeping people well.

"Public sentiment is demanding the service which the medical profession must be prepared not only to give, but to contribute their proper share for modern preventive medicine." Keeping people well is the task of the general practioner to a large extent. He must aid and assist the constituted health authorities.

It is interesting to note the activities of the illegal practitioner and to what extent he bleeds the public for incompetent service. The same chapter deals intelligently with self-medication and narcotic addiction.

A perusal of this splendid little book arouses admiration for the marvelous capacity of the authors to compose so much knowledge in so small a space. Every page is interesting and no library is complete without it—especially the busy practitioner of general medicine — the family doctor. The book reflects great credit on the New York Academy of Medicine, the Committee and the publishers.

OSCAR DOWLING, M. D.

Tularemia: History, Pathology, Diagnosis and Treatment: By Walter M. Simpson, M. D., with a Foreword by Edward Francis, M. D. New York, Paul B. Hoeber. 1929. pp. 162.

This monogram is written in a semi-popular style but is, nevertheless, strictly scientific and authoritative in its presentation. It contains all of the important facts regarding the disease, its distribution, epidemiology, reservoir hosts and arthropod transmitters, its clinical manifestations and pathological picture, its bacteriology and serology, diagnosis, treatment and prophylaxis. The following unique characteristics of the infection are emphasized: (1) The ease with which laboratory workers contract the disease; (2) the protection afforded from one attack; (3) the cross agglutination reaction of Bacterium tularense with B. abortus and B. melitense; (4) the granulomatous nature of the lesions in human cases and the multiple foci of necrosis in laboratory animals; (5) the special protein requirements of the organisms in culture; (6) the pleomorphism of the causative agent; (7) its ability to penetrate unbroken skin; (8) its ability to invade various types of cells in laboratory animals, as well as in the tick and the bedbug; (9) its hereditary transmission through the tick egg; (10) the great variety of arthropod, avian and mammalian hosts; (11) the relatively low mortality of the disease in contrast to the long period of convalescence.

The book contains a complete bibliography of 215 citations and a good index. It is beautifully illustrated and is a credit both to the author and to the publisher.

ERNEST CARROLL FAUST, Ph. D.

Insects, Ticks, Mites and Venomous Animals of Medical and Veterinary Importance: Pt. I. Medical. By Walter Scott Patton, M. B., I. M. S. (Ret'd) and Alwen M. Evans, D. Sc. Liverpool, School of Tropical Medicine. 1929. pp. 786.

Without question this volume is the most pretentious and at the same time the most valuable manual of medical entomology that has ever been published. It is dedicated to twelve medical men and scientists who from 1900 to 1928 have given their lives while studying "the etiology of those diseases the casual organisms of which are transmitted by Insects and Acari."

The book is arranged primarily for use in the laboratory study of the material, particularly as utilized by Professor Patton in his courses in the Liverpool School, covering twenty-eight laboratory period and twenty lectures. No enumeration of the forms covered can do justice either to the plan of the authors or the material which they

have presented. It may be well to state, however, that from this time on the volume will be a veritable bible for the student of medical entomology.

Perhaps the most valuable contribution in the book is the wealth of illustrations, for the most part original, including not only accurate line and stipple but handsome half-tones. These illustrations include both anatomical details and habit photographs of practically all arthropods of medical importance. In the back of the volume there is also a large folded chart, which indicates pictorily the relationship of the several groups of arthropods to one another.

The book is well indexed, attractively printed and bound, and is very modernly priced.

ERNEST CARROLL FAUST, Ph. D.

A Manual of Proctology: By T. Chittenden Hill, Ph. B., M. D., E. A. C. S. 3rd ed. rev. Philadelphia, Lea & Febiger. 1929. pp. 272.

In trying to cover the field in so small a volume, the author has been constrained to be concise. Instead of this being a handicap, its brevity turns out to be a noteworthy feature of the book. Controversial matter is omitted throughout. However, each chapter sufficiently covers the subject under discussion. Descriptions of operations are given step by step in a way easily understood. It is amply illustrated by well selected photographs and diagrams.

MAURICE LESCALE, M. D.

Grenz Ray Therapy: By Gustave Bucky, M. D. New York, The Macmillan Company. 1929. p. 170.

This book is devoted entirely to the treatment of skin diseases by roentgen-ray of very long wave length which Bucky named Grenz rays. He offers a lengthy explanation of just what these rays are and their biological effect on tissue. In an explanation, Bucky tells us that it is not yet possible to obtain for practical purposes the whole radiation band between ultraviolet and roentgen-rays. The shortest wave length of ultraviolet radiation which are available for practical purposes are in the neighborhood if 1300 Angstrom units. Until recently the longest wave length of roentgen-rays used biological and clinical work were about 1 Angstrom units although roentgen-rays of 20 Angstrom units have been produced and analyzed by means of difficult experiments carried on in vacuum. Only a few years age Bucky conceived the idea of inserting a transmitting Lindemann window (a glass composed of the low atomic weight elements, lithium and born) into a constant Coolidge tube with a voltage of only a few kilovolts and he therewith introduced into radiatiin therapy soft radiation beams of great constancy. Bucky offers evidence that the radiation beam of from 1 to 3 Angstrom units thus produced have biological effects different from these of the shorter roentgen-rays or of the longer ultraviolet rays. He, therefore, calls these rays Grenz rays, which, translated, means border rays.

The therapeutic applications of these rays on tissue is comparatively new and for this reason it is perhaps better to wait for further investigations along these lines before passing favorable or unfavorable comments.

LEON J. MENVILLE, M. D.

Posture and Hygiene of the Feet: By Philip Lewin, M. D. New York, Funk & Wagnalls Co. 1929. pp. 47.

In the consideration of such an important subject as the care of the feet, this little volume by Dr. Lewin enables the layman to get clear, concise, and, above all, correct information concerning the ordinary foot disturbances. The chapters on the correction of flat foot metatarsalgia are of great value and can be used to advantage by physicians. This booklet is a valuable addition to the National Health Series, and it is to be recommended to physicians and laymen who are interested in this condition.

DUDLEY M. STEWART, M. D.

The History of Hemostasis: By Samuel Clark Harvey, M. D., New York, Paul B. Hoeber, Inc. 1929. pp. 128.

The application of an artery forceps is to us so simple and obvious a procedure that we little realize the travail that has gone into the perfection of modern methods of hemostasis. It is indeed surprising to read how the development of these methods has been hampered by superstition and misunderstanding. A most interesting and instructive account is given by Yale's Professor of Surgery.

M. M. WINTROBE, M. D.

Recent Advances in Surgery: By W. Heneage Ogilvie, M. A., M. D., M. Ch., Oxon., F. R. C. S., Eng. 2d ed. Philadelphia, P. Blakiston's Son & Co. pp. 495.

After rambling through medical journals endeavoring to assort articles of value, it is a pleasure to read this text,—thoroughly up-to-date, concise, well-systematized and conclusive as far as possible. This book is comparable with

the American Yearbook of Surgery. The author's style is clear and readable. The book is divided into seventeen chapters. There are several dealing with topics that the every-day surgeon is not familiar with, and by which he will be greatly benefitted, namely chapters 2 and 3 dealing with the nervous system.

Chapter 7 on Chest Surgery, written by Grant Massie, M. S., F. R. C. S., is very well written. The subject of Muscle Physiology and Spastic Paralysis is reviewed in Chapter 13. The technical aspect of roentgen-ray, radium and diathermy, written by J. F. Carter Braine, and the succeeding chapter on its application and results in surgery, comprise an outstanding feature of the book. The final chapter on Venereal Disease by V. E. Lloyd handles the subject in an admirable manner.

EMILE BLOCH, M. D.

Pettibone's Textbook of Physiological Chemistry: With Experiments: By J. F. McClendon, Ph. D. Fourth edition. St. Louis, Mo., C. V. Mosby Co. 1929. pp. 368.

This textbook, based on the work in Physiological Chemistry at the University of Minnesota, written by C. J. V. Pettibone, and carried through three editions has been revised and rewritten by J. F. McClendon. It is a brief interesting elementary textbook of physiological chemistry Most of the usual topics are discussed. It might be considered that certain subjects as blood for example, are disposed of too briefly. On the other hand, interesting items of information not usually found in an elementary textbook, are introduced at various places. Thus there is the discussion of "important foodstuffs."

The illustrations while few are well chosen.

The last third of the book consists of laboratory directions. Chief atention is devoted to qualitative experiments, but methods for the most common quantitative determinations are described.

There is furnished a list of references, consisting chiefly of monographs, textbooks and review articles.

R. C. CORLEY, M. D.

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William Wood & Company, New York: A Manual of Midwifery, by Henry Jellett, B. A., M. D. (Dub. Univ.), F. R. C. P. L.? The Eye in General Practice, by A. Maitland Ramsay, M. D., LL.D. Varicose Veins, by T. Henry Treves-Barber, M. D., B. Sc. Aids to Dermatology and Venereal Disease, by Robert M. B. Mackenna, M. A., M. B., B. Ch. Camb., M. R. C. P., Lond., M. R. C. S., Eng. Aids to Orthopedic Surgery, by Eric A. Crook, M. Ch. (Oxon.), F. R. C. S. (Eng.).

F. A. Davis Company, Philadelphia: Handbook of Bacteriology for Nurses, by Harry W. Carey, A. B., M. D.

Lea & Febiger, Philadelphia: Practical Materia Medica, by Clayton S. Smith, Ph. D., M. D., and Helen L. Wikoff, Ph. D.

Oxford University Press, New York and London: A Textbook of the Practice of Medicine, edited by Frederick W. Price, M. D., F. R. S. (Edin.) Mammalian Physiology, by E. G. T. Liddell, D. M., and Sir Charles Sherrington, O. M., M. D., D. Sc. (Cantab.), F. R. S.

Bailliere, Tindall and Cox, London: The Care of the Nose, Throat, and Ear, by W. Stuart-Low, F. R. C. S. Eng.

C. V. Mosby Company, St. Louis: Research and Medical Progress and Other Addresses, by J. Shelton Horsley, M. D.

Paul B. Hoeber, Inc., New York: Annals of Roentgenology, edited by James T. Case, M. D., Volume 9, The Neck, by Percy D. Hay, Jr., M. D. Otologic Surgery, by Samuel J. Kopetzky, M. D., F. A. C. S. Incompatibility in Prescriptions and How to Avoid It, by Thomas Stephenson, D. Sc., Ph. C., F. R. S. Edin., F. C. S.

J. B. Lippincott Company, Philadelphia and London: International Clinics, edited by Henry W. Cattell, A. M., N. D., Volume IV, Thirty-Ninth Series, 1929.

The Wellcome Foundation Ltd., London: The Medical Museum, based on a New System of Visual Teaching, by S. H. Daukes, O. B. E.

G. Doin & Cie., Paris: Anemies, by Noel Fiessinger. L'Emphyseme, by L. Bard. Le Rhumatisme Blennorragique, by P. Ravaut & R. Boulin. Le Rachitisme, by A. B. Marfan.